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THE ORCHID REVIEW:

An Illustrated Monthly Journal of Orchidology.

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* * * * *

"The habitat of this Orchid is no longer a secret. . . . A native has brought away over one thousand plants."

THE ORCHID REVIEW.

VOL. XIII.] *JANUARY*, 1905. [No. 145.

EVENTS OF 1904.

THE weather of 1904 formed a pleasing contrast to that of its predecessor, the almost constant drip of 1903 having been followed by a really fine summer, and the climatic conditions have been favourable both for the growth of Orchids and the proper ripening of the pseudobulbs. But the fogs of the last few weeks have been severe in many urban districts, causing great havoc among the Christmas supply of cut flowers, and so bad have the last few days been that the year bids fair to depart in universal gloom. The plants, however, are in excellent condition, and will soon recover from this temporary check.

EXHIBITIONS.

One of the most important events of the year was the celebration of the Royal Horticultural Society's Centenary by the opening of its New Hall and Offices in Vincent Square, Westminster, on July 22nd last, by their Majesties the King and Queen. The Society has now a home of its own, in addition to a fine Exhibition Hall, and the fact should serve to increase both its influence and usefulness. The acquisition of a new Garden at Wisley in place of the one at Chiswick does not immediately concern us as Orchidists, but we cannot forget that the latter place was the scene of some brilliant Orchid Exhibitions in the early days of the Society's history, and quite recently of the Hybridisation Conference, when Orchids were fully represented.

The Temple and Holland House Shows were, as usual, marked by very brilliant displays of Orchids, and the Society's fortnightly meetings have been of more than average merit, as the reports in our pages testify. The Manchester Orchid Society has held the usual number of successful meetings, while the Spring and Whitsuntide Shows of the Manchester Royal Botanical and Horticultural Society also produced fine displays of Orchids. The Orchid Shows held in connection with the Düsseldorf Exhibition were also very successful, Belgium, France, and England joining the Fatherland in making a fine display of these fascinating plants.

NOVELTIES.

The imported novelties or species new to cultivation showed a decided increase over last year, and included such interesting plants as Cymbidium Wilsoni, which gained an Award of Merit from the R.H.S., Angræcum infundibulare, long known from dried specimens, which received a First-class Certificate, the remarkable Javan Paphiopedilum glaucophyllum, the handsome leafless Vanilla Humblotii, which flowered at Burford, Aërides Micholitzii, Bulbophyllum miniatum, a feathery-lipped species from the Congo, B. virescens, a remarkable Javan species which flowered at Clare Lawn, the remarkable Chilian Chloræa incisa, and Dendrobium regium, a handsome Indian novelty, which flowered at Kew. The re-introduction of the handsome Cymbidium Parishii by Messrs. Sander and Sons was also an event of considerable interest. It was at first thought to be new, and received a First-class Certificate from the R.H.S. under the name of C. Sanderæ, but was afterwards recognised as a variety of C. Parishii, which had been lost to cultivation.

HYBRIDS.

The list of Hybrids must be headed with the remarkably distinct and handsome Odontioda × Vuylstekeæ, which created such a sensation at the Temple Show, and which was illustrated, together with its parents, at page 209 of our last volume, and afterwards in colour in the *Botanical Magazine* (t. 7990). Three other handsome novelties from M. Vuylsteke were Odontoglossum × nitidum, O. × venustulum, O. × concinnum lætum, which together with M. Jules Hye's O. × japonais were also figured at page 201. The brilliant little Sophrocattleya group received accessions in S.-c. × Saxa, S.-c. × Doris, S.-c. × Atreus, and S.-c. × warnhamensis. Among albino Cattleyas we have the chaste and beautiful C. × Madame Myra Peeters, and there are interesting additions among the Lælias, Lælio-cattleyas, Cymbidiums, and other genera, which we shall be able to summarise more effectively elsewhere. The raising of Lælio-cattleya × elegans true from seed by Mr. Ch. Maron was an interesting event, and a similar remark applies to D. nobile virginale raised by Mr. Thwaites, though the event should not strictly speaking be referred to under hybrids.

SEEDLING ODONTOGLOSSUMS.

The rapid progress that is being made with seedling Odontoglossums is attested by the remarkable series in the collection of De Barri Crawshay, Esq., of which so full an account was given in our issue for July last. The raising of a handsome blotched form of O. crispum, called W. Stevens, in the collection of W. Thompson, Esq,, is an important event which pressure on our space alone prevented us doing justice to last month.

CERTIFICATED ORCHIDS.

The list of Certificated Orchids is again numerous. We have not yet the

R.H.S., official record, but on looking through our reports we find a list of 28 First-class Certificates, 66 Awards of Merit, 19 Botanical Certificates, and 13 Cultural Commendations. The latter Award is one which we are particularly pleased to see coming into such prominence, and in this connection we would mention that the Lindley Medal for excellence in culture has twice been awarded, in one case appropriately enough to the remarkable Odontioda, already mentioned. The recipients of First-class Certificates include Odontioda × Vuylstekeæ, Angræcum infundibulare, Catasetum pileatum aureum, Cymbidium Parishii Sanderæ, *Zygopetalum* × Gottianum, and Dendrobium × Thwaitesiæ Veitch's variety, together with two Cattleyas, four Cypripediums, seven Odontoglossums, and nine Lælio-cattleyas. It is significant that five of the seven Odontoglossums were forms of O. crispum. The Awards of Merit and the Manchester Orchid Society's awards we have not analysed.

LOSSES DURING THE YEAR.

Among the losses by death recorded during 1904 must be mentioned Consul F. C. Lehmann, to whom our collections are indebted for so many interesting Colombian Orchids; Edwin Hill, for many years gardener to Lord Rothschild at Tring Park, and one of our most successful cultivators of Phalænopsis and other Orchids; and Frank Rehder, the owner of an interesting collection of Orchids at Gipsy Hill. The two latter gentlemen were members of the R.H.S. Orchid Committee, and their deaths create vacancies on that body. Among Continental Orchidists we shall in future miss the names of Alfred Madoux, of Brussels, Louis Draps-Dom, of Laeken, and A. de Lairesse, of Liège. Leo Grindon, the author of the *Fairfield Orchids*, also passed away at the mature age of eighty-six.

USE OF LEAF-MOULD.

The discussion as to the use of leaf-mould has continued, with something like inconclusive results, but there is growing evidence that an admixture of oak and beech leaves in the compost used for many Orchids is beneficial, if the proper mechanical condition of the compost and efficient drainage be at the same time secured, and the watering of the plants be carried out with intelligence. Indeed we have evidence that the practice is extending. We know humus to be an important source of plant food, and the only problem is how to use it so as to secure the best results. In this connection we cannot refrain from mentioning the important and instructive article by Mr. J. Wilson Potter, which appeared at pp. 106-110 of our last volume.

Evidence of progress is everywhere apparent, and we can look forward to the coming year with confidence that during its course the rate of progress will be fully maintained. In conclusion, we wish our readers a Happy New Year, and every success with their favourite hobby.

CALENDAR OF OPERATIONS FOR JANUARY.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THE temperatures for the month should be maintained as nearly as possible at the following figures :—

COOL HOUSE.—Day, 55° ; night, 50° ; morning, 48°.

INTERMEDIATE OR CATTLEYA HOUSE.—Day, 60° ; night, 58° ; morning, 55°.

EAST INDIAN HOUSE.—Day, 65° to 70° ; night, 65° ; morning, 60°.

The above figures will serve as a guide for the grower to work to, but it is not always possible to maintain the thermometer exactly at a stated degree, nor indeed is it necessary for the welfare of the plants. Allow the temperatures to slightly fluctuate a few degrees, in accordance with the prevailing conditions of the weather outside.

COOL HOUSE.—This department is one having sufficient hot-water arrangements to maintain a temperature of not less than 45° during severe weather, and which should be kept rather shady and moist during the summer months. This house should, during this month, give but little trouble as regards damping, watering, &c. If the thermometer is maintained at about the figures given, water distribution for the purpose of causing a moist atmosphere need not take place more than once daily, and in mild, damp weather even this may not be necessary. Give air on all occasions when the outside conditions permit, for if one thing more than another is conducive to the keeping of Orchids in a sound, healthy state, it is pure, fresh air, administered in a proper way, so as to cause no draughts. Cool Orchids mostly prefer to be shaded from direct sunshine when it has much power, but none will be required yet awhile. Although requiring shade in sunny weather, they are, nevertheless, light-loving plants, and should be grown as near the roof glass as it is convenient to place them. A plant well exposed to the light will not become drawn and weakly, making long, green leaves which are unable to support their own weight. On the contrary, they will be robust and strong, and such plants will bear looking at.

A good many inmates of this department will now be showing their flower spikes for blooming at a later date. Amongst them will be Odontoglossum crispum, O. triumphans, O. Hallii, O. luteopurpureum, O. polyxanthum, and O. Pescatorei, but the fact of these showing their flowering spikes need not prompt the cultivator to change the treatment one iota. They should still receive the same cool and airy treatment, and be given sufficient water at the root to maintain plumpness ; they will then come along slowly but surely, and make a finer show when they bloom, inasmuch as the blooms will be of a better quality than would result if any forcing

methods were followed. It is just at this period that slugs and yellow thrip make their presence felt. They soon discover the young, tender spikes, and will soon devour or permanently disfigure them unless prevented from doing so.

Fumigation should be resorted to in the case of thrip, and a careful look out for slugs must be carried on regularly. The flower spikes of several other species will be further advanced, in fact some few may already be in bloom, whilst others are fast approaching that state. Amongst these may be mentioned Odontoglossum gloriosum, O. odoratum, O. × Andersonianum and its varieties Ruckerianum and hebraicum, also O. × Humeanum. As regards the watering of these last named kinds, or any other species that may be in a like condition, I may say that the supply should be somewhat increased. Very weak plants should, of course, not be allowed to bear a spike, or they will suffer greatly by shrivelling, no matter how much water they receive. Strong plants will yield their harvest of bloom without showing any sign of stress whatever, but of course they should be given rather more water as they grow and develop, otherwise we all know that the plant would suffer, no matter how strong it was.

Odontoglossum Rossii is an exceedingly useful and popular Cool-house species, and is just now commencing to produce its pretty flowers in abundance. This is probably the hardiest of all exotic Orchids cultivated under glass. It is certainly best grown suspended, for several reasons. Firstly, because it greatly appreciates an airy position; secondly, because it should have much less water at the roots at all seasons than most other species; and, thirdly, because it resents root disturbance. If the above little matter be remembered, O. Rossii will rarely require to be pulled about for the purpose of repotting, because its roots will remain perfectly healthy in their confined space—a small receptacle seeming to suit them best. The foliage will also be perfect; not decaying at the apex as it is liable to do. O. Cervantesii is another lovely, chaste little Orchid, and will fully repay the grower for proper treatment. In fact, unless it be well grown, it appears more or less weak, but when in good condition, it is exceedingly pretty and attractive. It should be treated exactly as the preceding species.

INTERMEDIATE, CATTLEYA, AND MEXICAN HOUSES.—These are practically, to all intents and purposes, one and the same House, and during winter most necessarily receive the same management, because of the small amount of sunshine. During the summer of course it is a different thing. It is then very useful if a compartment can be set aside for what we term Mexican Orchids, because then the amount of bright sunlight which they require can be more easily administered without the fear of injuring the more shade-loving intermediate Orchids, such as many of the

Oncidiums, Odontoglossums, and Cypripediums. For the present we will speak of it as the Intermediate house. As regards the general management of this house and its inmates, not much more can be added to the instructions given for the Cool house. It will be a quiet month in all respects, therefore we need simply keep the thermometer near the stated figures, and not attempt in the least to force the growth too rapidly at this dull season, leaving that for brighter and longer days. I have always noticed that the better the plants are staged and strengthened in winter, by rational treatment, the more rapidly and strongly they grow when the proper season arrives and the outside conditions admit of giving them a really growing atmosphere. The amount of water distributed for purposes of evaporation may perhaps be slightly in excess of the Cool house, so as to correspond with the slightly increased amount of fire heat required. The watering at the root must here also be done with a good deal of discretion, giving simply enough in each case to keep the plants plump and fresh, and a very little will suffice for this purpose. The same remarks will also apply to the East Indian house.

NEWLY-IMPORTED DENDROBIUMS.—These are commencing to arrive in quantity, and already we have had batches of D. nobile, D. Wardianum, and D. crassinode. They should be potted up in small receptacles as soon as convenient, and made quite secure, giving them Cool house treatment for a month or so. Little water will be required, but enough should be given to gently assist the efforts in growth. After a month or six weeks of this, they may be removed to the Intermediate house. Never try to force newly-imported Orchids into growth too quickly, but allow them to come away slowly and surely, and always endeavour when potting them up to form handsome, neat plants, for before new growth has started an ill-shaped, newly-imported plant may, by judicious ties and stays, be converted into a fairly respectable shape, but when once established it is a difficult matter to do this. Bear in mind that however scandent or leggy the mass is, the compost must come well up to the leading pseudobulb, so that the new roots may enter it immediately they push forth. With Dendrobiums this difficulty of unshapely plants is not nearly so frequent as with some of the Cattleyas, Lælias, &c. With these it is often necessary to part them into several pieces, and again reconstruct the mass.

DENDROBIUMS.—Many established Dendrobiums have now had a thoroughly good rest in the Cool department, and are showing flower buds and new growth in profusion. The most forward of these should be selected at intervals and given a slight increase of warmth. They will then soon come into bloom, and thus the flowering period may be extended over several months. Take care, however, that they are not subjected to great heat, or the new growth will come away much too quickly, and be very

weak and spindly, which is very undesirable. Increase the water supply gradually, and when repotting is contemplated let it be done immediately flowering is over, as new roots then become most active.

GENERAL TREATMENT.—In conclusion, the best possible advice to follow during the month is to look well after the temperatures and atmospheric conditions generally, avoiding extremes of cold and heat, wet and drought, and making no attempt to force growth, but rather to maintain the plant in a healthy if stationary condition. Growth will then be the more certain when the proper season arrives. Keep things on the dry side, especially with plants that are quite inactive. Any that may be growing should receive sufficient moisture only to keep them steadily on the move, and to maintain them plump and healthy.

A good supply of sphagnum moss should be secured, together with good fibrous peat, so that everything may be ready when the busy season commences, for it often happens that just at the time when we could get on with our indoor potting, we are prevented from doing so, on account of the sphagnum being locked up by frost, and thus valuable time is lost, which might be prevented by a little foresight.

SCHOMBURGKIA CHIONODORA.

A VERY interesting and beautiful Schomburgkia has just flowered in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking. Mr. White states that it was "purchased from Messrs. Sander in 1886, as Schomburgkia sp. white var." It is evidently the Schomburgkia chionodora described about this period by Reichenbach (*Gard. Chron.*, 1886, i., p. 73), as follows:—"A novelty in the way of Schomburgkia Humboldti, imported from Central America by Mr. F. Sander, and promising to be a stately plant provided it be judiciously treated. It has shining, terete or tetragonal bulbs more than a foot in length, with ten or twelve blunt angles. They have a single cavity surrounded by woody matter. Schomburgkia Humboldti has the peculiarity of having a number of smaller tubes around the central cavity, all surrounded by wood cells. Leaves two to three, cuneate-oblong, blunt, very broad (4-5 inches). Flowers most probably in panicles, said to be very numerous, exceeding those of Epidendrum atropurpureum (macrochilum, Hook.). Sepals ligulate, acute. Petals spatulate, blunt. Lip large, quadrilobed, frontal sinus deep, lateral sinuses very short. Anterior part toothletted, and wavy, like an old-fashioned dandy's frill. There are five keels on the disc, which are entire, not serrate as in Schomburgkia Humboldti. And now the test—the colour. The flower is said to be snow-white, with a purple spot in the centre of the lip. The dried flowers at hand give evidence of a white colour." The flowers

sent partly confirm what was evidently the collector's note about the colour, for the flowers are white, but in these the "purple spot in the centre of the lip" is the apex of the column, which, together with the anther case, is dark purple. The face of the column is suffused with lighter purple, the back of the same is ornamented with one central and two lateral lines of minute dots of similar colour, which lines nearly coalesce towards the base. The five entire keels are pale primrose yellow, and near the base of the lip occur a number of slender purple streaks. It is a chaste and beautiful thing, and its name ("snow-gift"), of course, refers to the colour of the flower. Hitherto the plant has been somewhat of a mystery, and it is probably a white form of a purple-flowered species. In 1888 Reichenbach described a purple-flowered Schomburgkia under the name of S. rhionodora Kimballiana, from the collection of W. S. Kimball, Esq., Rochester, New York (*Gard. Chron.*, 1888, i., p. 136), and in December, 1894, Messrs. Hugh Low & Co., received an Award of Merit for it (*G. C.*, 1894, ii., p. 731; *O. R.*, 1895, p. 32), but the specific name should evidently have been spelt "chionodora." This plant has since been cultivated, and recorded, under the name of S. Kimballiana (*O. R.*, 1898, p. 47), and Mr. White remarks that the one now sent is similar, both in the form of the flowers and pseudo-bulbs. We should think that the name of S. Kimballiana var. chionodora would indicate more exactly the relationship of these two forms to each other. S. lepidissima, Rchb. f. is an allied species which flowered in the collection of C. Dorman, Esq., of Sydenham, in 1888, and seems to have since been lost sight of. We only know it from description.

R. A. ROLFE.

MAXILLARIA MONANTHA.

THIS is an interesting Maxillaria which has been in cultivation for some considerable time, though its identity was not quite certain. It flowered with Mr. J. O'Brien, Harrow-on-the-Hill, in September, 1894, and again a year later, and with M. L. Kienast, of Zurich, in April, 1896. A plant has now flowered at Kew, having recently been received from the Botanic Garden at Heidelberg, and on comparison it proves identical with a drawing of M. monantha (Rodr. in *Vellosia*, i., p. 129), which fixes its habitat as Brazil. It is allied to M. marginata, Fenzl., but has shorter scapes, and the l p not margined with blackish purple as in that. The sepals and petals are yellow, more or less suffused with red-purple at the back, and the three-lobed tip is white, with a few lines of light red dots on the side lobes. In other respects it has much of the general appearance of the species named. M. Barbosa Rodriguez gives it as a native of the province of Espirito Santo, flowering in December.

R. A. R.

PAPHIOPEDILUM CHARLESWORTHII VAR. MADAME LE DOUX.

ON October 14th last a fine specimen of Cypripedium Charlesworthii var. Madame le Doux, from the collection of R. le Doux, Esq., Marlfield, West Derby, Liverpool, was exhibited before the Manchester and North of England Orchid Society, and received a First-class Certificate, while a

Fig. 1. PAPHIOPEDILUM CHARLESWORTHII VAR. MADAME LE DOUX.

Bronze Medal was awarded to the gardener, Mr. S. Davenport, in recognition of such excellent culture. We are now able to give an illustration of the actual specimen, from a photograph kindly sent by Mr. le Doux. It is evidently a very healthy plant, and bears eight finely-developed flowers. The variety is also remarkable, the dorsal sepal measuring as much as 3⅜ inches broad, and thus it will be seen that our figure is almost exactly one-

quarter natural size. Messrs. Charlesworth write that they have not seen its equal, and the only variety which we remember that is at all comparable with it is P. Charlesworthii gigantum, from the collection of the late Major-General Gillespie, of Usk, which was noted at page 364 of our seventh volume, in which the dorsal sepal is recorded as "slightly over three inches across, and very beautifully coloured." The present variety is still larger, and the colour of the dorsal sepal may be described as rose-pink. The petals and lip, as will be seen from the illustration, are correspondingly well developed. Mr. le Doux must be congratulated on the possession of such a remarkably fine variety.

ODONTOGLOSSUM CRISPUM VAR. WILLIAM STEVENS.

A PHOTOGRAPH and flower of this remarkable Odontoglossum, which was exhibited at the R.H.S. meeting on Nov. 15th, has been sent from the collection of William Thompson, Esq., Walton Grange, Stone. Mr. Stevens writes:—"I send you a flower of the seedling O. crispum William Stevens, I suppose the first blotched crispum that has been raised by hand. It was exhibited at the last R. H. S. meeting, and it is a pity that the Orchid Committee did not see their way to recognise it in some form, but as two flowers had been taken off it was passed over. Two flowers only were left on, but you will see by the small photograph that the entire plant consisted of only two small bulbs, and it certainly would not have been wise to let it carry more. The parents were a large, deep rose-coloured flower, fertilized with a spotted crispum, and the result is as you will see. I think it ought to set the question at rest whether or no blotched crispums can be raised from seed. The seeds were sown on August 28th, 1900, and as the plant strengthens it ought to be a fine thing." Mr. Stevens adds that pollen from two different spotted crispums were used. It is a most interesting flower, and equally beautiful, both shape and colouring being excellent, and when the plant becomes strong we expect it to stand in the front rank among blotched crispums. The flower sent measures 3¼ inches from tip to tip of the petals, and the latter are even now over an inch broad, with the sepals proportionate. The colour is white, suffused with rose on the sepals, and the blotches are rich red brown, becoming dark cinnamon brown on the lip. Each petal bears one very large irregular blotch on the centre, eight lines broad, with a few traces of purple suffusion on the white area, while the sepals bear two very large transverse blotches, which are slightly broken up in the lateral pair. The front of the lip is more than half covered with three large blotches in front of the yellow disc, and the side lobes are prettily margined with a row of small brown dots.

Mr. Stevens must be congratulated on his success, and it is not too much to say that the plant will become historical.

THE FOG FIEND.

WHEN I wrote you at the end of November, respecting the Cypripedes noted at page 370, which had experienced a record ordeal of fog and had passed through it with little or no harm, I knew not what December had in store for horticulturists in this district. In November we had four days of dense fog (16th, 17th, 18th, and 27th), and it was through this befogged period that your cut Cypripedes had passed without apparent harm. I thought this was a record, until December appeared with a foggy experience which beat anything I have experienced during my Orchid growing life. For the first week or so the weather was variable and sunless, but on the 12th we had a dense fog, of the usual blackness, which again gave place to a few days of comparatively fogless weather until the 19th, when dense fog returned and continued for five consecutive days (20th, 21st, 22nd, 23rd and 24th), without a break, and dense fogs continued on the 26th and 28th, so that in December we had nine days of fog during the space of a fortnight. Even my Cypripedes could not withstand such an awful ordeal, and their buds and blooms have all been destroyed. On Saturday my gardener cut (in my presence) about 100 buds, half expanded and fully open blooms, which the fogs had quite destroyed, or rendered quite useless for table decoration. All varieties succumbed, such as insigne, Spicerianum, superbiens and venustum, among the species, and × nitens, × Leeanum, × Lathamianum, × Euryades, × Melia, × Swinburnei, and × triumphans, among the hybrids. You can imagine my feelings, so I won't attempt to describe them, but wishing you a happy and fogless new year, Believe me, yours sincerely,

Bridge Hall, Bury. O. O. WRIGLEY.

PAPHIOPEDILUM FAIRRIEANUM AND ITS HYBRIDS.

By FRANCIS WELLESLEY and R. A. ROLFE.

CYPRIPEDIUM FAIRRIEANUM—or Paphiopedilum, as it should be written now that the generic distinctness of the hardy and tropical species is known—is both the desire and the despair of every lover of Cypripediums, who at the present time can only admire it from existing figures, or through its none too numerous progeny. The plant to-day, so far as all practical purposes are concerned, might be extinct in Europe. In England the existence of only one tiny plant is known—in the collection of Sir Trevor Lawrence, at Burford—and on the Continent there are four little pieces, the size of quite

small seedlings—at the Jardin de Luxembourg, and all the loving and skilful attention of M. Opoix is unable to increase them. No others are certainly known. It was not always thus, for there is ample evidence that at one period it was fairly common. Indeed it is on record that some thirty years ago Messrs Van Houtte used to sell plants at ten shillings each. In 1870 we find Mr. W. Bull offering plants at 1½ and 2 guineas, and in 1875 at 2 and 3 guineas, but in 1876 the name disappeared from the Catalogue. In the early sixties Mr. Day has recorded that he had a score of plants, and flowers by the dozen, but, he added, "my gardener, R. Stone,

Fig. 2. PAPHIOPEDILUM FAIRRIEANUM.

allowed the things to kill all my plants." There is also a record of a specimen at Kew, during the time that the late Mr. Gower was there, "over three feet across," which one is quite unable to realize at the present time.

The species came into cultivation in a rather mysterious way, being described by Dr. Lindley in October, 1857, from a plant "shown at the late exhibition of the Horticultural Society, in Willis's Rooms, by Mr. Fairrie, of Liverpool, an enthusiastic collector of Orchids," after whom it was named. In the following December it was figured in the *Botanical*

Magazine (t. 5024), from specimens which flowered in the collection of Mr. Reid, of Burnham, Somerset, in the previous October, and it was added "we have since had a flowering plant sent by Mr. Parker, of the Hornsey Nursery. In both cases the plants were, we believe, obtained at a sale of East Indian Orchids at Stevens' Rooms, of a collection sent from Assam." On trying to trace this record further we find an advertisement in the *Gardeners' Chronicle* for March 21, 1857 (page 207), which we suspect refers to this plant, though it gives little additional information. It is announced under the heading, "Orchids, Seeds, and Plants from Java, Calcutta, etc., consigned for absolute sale," that "Mr. J. C. Stevens will sell by auction at his Great Room, 38, King Street, Covent Garden, on Tuesday, March 24, at 1 o'clock precisely, a consignment of Orchids from Java, ... five boxes from India, with a new Cypripedium, and various Begonias, ferns, &c." If this refers to our plant it must have flowered in at least three collections within about six or seven months of its arrival. It may be possible to trace the record further. Almost immediately afterwards a Bhotan habitat was recorded by the late M. Van Houtte, who, when figuring the plant in the *Flore des Serres* (t. 1244), stated that he obtained plants, without any name, from a correspondent there. The Assam habitat has been confirmed, for a Captain Tronson, when on military duty there, sent some plants to the Royal Botanic Garden, Calcutta, which flowered in September, 1861, when their identity was at once recognised.

In a recent very interesting article by M. Opoix (*Rev. Hort.*, 1903, p. 255), we find the remark:—"We believe the plant was sent to Europe by a collector named Simons," which may give a very important clue to its habitat. Simons was an apothecary, who lived for many years at Nowgong in Assam, practising as a Doctor, and in his leisure time he made important collections of dried plants, chiefly in the Brahmaputra Valley and in the Khasia and Mikir Hills. The Khasia Hills have now been so thoroughly searched that there is reason to believe the plant did not come from there, while the evidence is equally clear that it is not a native of the hot lowlands. The Mikir Hills, however, where Simons also collected, are not so well known. They form an isolated range between the Khasia Hills and the Brahmaputra River, and rise to an altitude of nearly 4,500 feet. North of the river and east of Bhotan is situated a very hilly country, inhabited by independent hill tribes, whose ferocity is such that no European dare venture there, so that practically they cannot pass beyond the frontier, except by the trade route which extends from Bhotan north to Thibet. Simons is believed not to have reached this territory, indeed Griffith is said to be the only botanist who has traversed this dangerous country—he penetrated as far north-east as Mishmi—and Mr. C. B. Clarke, to whom we are indebted for some of the above information, remarked that no one understands how

he came to return alive. In such a locality a plant would be pretty safe from molestation. This country is adjacent to the east of Bhotan, while the Mikir Hills are south of this on the other side of the river. The latter are in Simons' country, and if he collected the plant at all, this seems to be a very promising locality for a search; while further north agrees fairly well with the Bhotan record, for the term may have been rather loosely applied. It may be objected that no wild dried specimens are known, but Captain Tronson's plants were collected out of flower, and all the rest may have been, too. Only a collector who visited the right locality in the autumn would be likely to find flowers to dry, and when not in flower it would be very easily overlooked.

In view of the great interest attached to the re-discovery of the species we have focussed such information as we have been able to find; for it is at least significant that in the case of the much sought-for Cattleya labiata the locality whence Swainson sent his original plants was on record all the time, though overlooked by everybody (See *Orch. Rev.*, viii., pp. 362-365). The circumstance affords ground for hoping that the much-desired P. Fairrieanum will ultimately be re-discovered.

To trace the history of its decadence under cultivation would be difficult, but several interesting glimpses can be obtained. We have seen how Mr. Day's plants fell victims to the attacks of thrip; Mr. Bowring records how he lost a good plant by attempting to get capsules—presumably of hybrid seed—from it, and others we know have been lost in impatient attempts to divide it, probably combined with too high a temperature, to induce rapid growth. Messrs. Veitch, in 1889, alluded to the "splendid specimen in the collection of Baron Schröder," as evidence that a light airy position near the roof glass of the Cattleya or Intermediate house was a suitable position for it, but that plant, alas, has since gone the way of too many others.

Some time ago an appeal to M. Opoix to let us know his method of culture appeared in these pages (xi., p. 67), to which he generously responded in the article already cited, which we now summarise. About the year 1884 he was appointed as Orchid grower at Luxembourg, under M. Jolibois, at which time there were two small plants of C. Fairrieanum in the collection, each having two or three leaves scarcely two centimetres (under an inch) long. By constant and assiduous attention they recovered so well that from 1890 to 1901 they flowered nearly every year, and during the course of their progress it was found possible to effect a division, by which the two plants became four, and on October 12, 1899, M. Opoix exhibited three plants, bearing an aggregate of four well-developed flowers, at a meeting of the Société Nationale d'Horticulture de France, and was awarded a First-class Certificate, with warmest congratulations. They did not

flower in 1902, and showed a tendency to decline, especially after the house was changed, but M. Opoix hoped that one would flower during the following autumn. This hope was fulfilled, and one of us had the pleasure of seeing the solitary flower, in August, 1903.—(See *O.R.*, xii., p. 263). They are grown in rather deep pans, in a mixture of fibrous peat and living sphagnum moss, with which a little wood charcoal is mixed. The pans are well drained. Thrips are especially to be guarded against, and the leaves should be frequently sponged, and the surface of the compost kept constantly covered with growing sphagnum. Though liking to be placed near the glass, an excess of light should always be carefully guarded against. A cool house of about 50° to 54° F. is recommended. One should avoid disturbing the compost as much as possible, but the materials must not be allowed to become sour, or quick destruction of the roots will follow.

At one time, in the hope of reproducing the type, M Opoix practiced fertilising the flowers with their own pollen, but he was completely disillusioned, for the seeds never germinated.

One other point should be mentioned. The plant, as we know it, has certainly a weak constitution, but this may be partly due to the vicissitudes through which it has passed under cultivation. It is significant that existing specimens do not show the vigour that is pourtrayed in the early figures, which vigour is also not apparent in some of the recent figures. The *Botanical Magazine* figure (t. 5024) conveys no impression of lack of vigour, and its substantial accuracy is vouched for by two fine flowers and a leaf in the late W. H. Gower's Herbarium. Dr. Lindley's original specimen also consists of a fine flower, with a scape eight inches high, and a leaf six inches long. What would be thought of such a specimen now-a-days? The production of a twin-flowered scape, in the collection of Frau Senator Jenisch, of Hamburg, is also recorded by Reichenbach (*Xen. Orch.*, ii., p. 108, t. 133). The fact is we know absolutely nothing about the conditions under which the plant grows, but one or two cultivators, by their intelligence, have hit upon a method of treatment which just suffices to keep it alive, while the majority have not even done this, and have either lost it through carelessness, wrong treatment, or in their feverish haste to divide it and work up a stock. Let us hope that this will not always be the case. A new importation might lead to a different condition of things.

It remains to add that our figure represents a flower from a well-grown plant formerly in the collection of Dr. Boddaert, of Ghent, and that it is reproduced from a plate (*Orch. Alb.*, ii., t. 70) kindly placed at our disposal by Messrs. B. S. Williams & Son, of Upper Holloway.

As this exquisite species is inaccessible we must content ourselves with the sixteen or so hybrids that already exist, or such few of them as we are

lucky enough to procure. Surely no other species has given us hybrids of such refinement and beauty, and if we had to name its most perfect offspring the choice might fall on the one aptly named Juno; or if the pride of place be denied to this, it must undoubtedly be given to that called Baron Schröder, an exquisite flower in every respect, though one cannot do justice to it in black and white. Tastes, however, differ, and it would be invidious to attempt to arrange them in an order of merit.

P. × VEXILLARIUM was the earliest of the series—and indeed the second hybrid in the genus—flowering as long ago as 1870. It was raised by Mr.

Fig. 3. PAPHIOPEDILUM × VERILLARIUM VAR. REX.

Dominy in the establishment of Messrs. James Veitch and Sons, P. barbatum being the seed parent. It is very variable, some forms being highly coloured, and others much paler and rather thin in texture. The variety Rex (here figured) is probably the darkest of all the Fairrieanum hybrids. The variety Rougeri was raised by Messrs. Pitcher and Manda at Short Hills, New Jersey, and Warocqueanum is a Continental seedling. it is said, from barbatum Crossii.

P. × JUNO is nearly allied to P. × vexillarium, P. callosum being the seed parent, hence the broader dorsal sepal, more falcate petals, and rather lighter colour. It was raised by Mr. D. O. Drewett, of Riding Mill-on-Tyne, and received a First-class Certificate from the R.H.S. in February 1892. It is said that only three seedlings of the cross survived, and that it flowered in the record period of two years and eleven months from the time of fertilisation. Juno has, perhaps, the most perfectly-formed and delicately coloured dorsal sepal of any of the Fairrieanum hybrids that we have seen.

Fig. 4. PAPHIOPEDILUM × JUNO.

P. × FAIRRIEANO-LAWRENCEANUM is the natural complement to the two preceding, P. Lawrenceanum being the seed parent, and it is now well known that P. barbatum, P. callosum and P. Lawrenceanum are three closely allied species from different geographical areas. The present hybrid appeared in the collection of R. H. Measures, Esq., The Woodlands, Streatham, in 1893, and was described in the first volume of this work (p. 308). It was compared to a much enlarged edition of C. × vexillarium with

somewhat lighter colours. The dorsal sepal is very broad, as much as 2½ inches, and the petals pendulous, slightly falcate, and 2½ inches long. Shortly afterwards it also flowered in the collection of T. Statter, Esq., receiving an Award of Merit from the R.H.S. in November, 1893.

P. × BALLANTINEI is undoubtedly the most beautiful of the purpuratum hybrids. This most refined flower results from the crossing of P. purpuratum with the pollen of P. Fairrieanum, and shows the influence of both parents very clearly. It was originally raised by Messrs. Veitch, flowering for the first time in August, 1890, when it received a First-class Certificate

Fig. 5. PAPHIOPEDILUM × BALLANTINEI, WESTFIELD VAR.

from the R.H.S. under the name of Cypripedium × H. Ballantine. The Westfield variety, here figured, is a Continental seedling. In general shape the flower most resembles the seed parent, but in the colour and marking the Fairrieanum influence is strongly in evidence.

The three beautiful hybrids here figured are from plants in the Westfield collection, and the illustrations have been prepared from very accurate paintings, which represent the flowers life size.

(To be continued.)

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of the R.H.S. was held at the Royal Horticultural Hall, Vincent Square, Westminster, on November 29th, when the display of Orchids was not large, the awards consisting of two medals and four certificates.

G. C. Rafael, Esq., Castle Hill, Englefield Green (gr. Mr. Brown), staged a fine group of Cypripedes, consisting of about one hundred plants, bearing an aggregate of nearly 500 flowers, to which a Silver-gilt Flora Medal was awarded. The group was prettily arranged with ferns and foliage plants, and extended almost throughout the length of the hall. Most of the plants were forms of C. × Leeanum raised in the collection, a few of the more striking having varietal names, but a few other kinds were also included.

G. F. Moore, Esq., Bourton-on-the-Water (gr. Mr. Page), received a First-class Certificate for Lælio-cattleya × Pallas magnifica (L. crispa × C. Dowiana), having magenta-rose sepals and petals and a broad, rich crimson lip, and an Award of Merit for Cypripedium × Miss Blanche Moore, a handsome hybrid of unknown parentage, though approaching C. insigne. He also sent C. × Euryades and C. × Miss Louisa Fowler.

L. B. Schlesinger, Esq., Bedales, Hayward's Heatb, received a First-class Certificate for Catasetum pileatum (Bungerothii) aureum, a beautiful lemon-yellow variety.

Walter Cobb, Esq., Tunbridge Wells, sent a prettily blotched form of Odontoglossum crispum.

F. Wellesley, Esq., Westfield, Woking (gr. Mr. Gilbert), sent a fine three-flowered plant of Cypripedium × Norma magnificum (× Niobe × Spicerianum), a very fine form, C. insigne Chantini Lindeni, and two handsome forms of C. × Leeanum.

Messrs. James Veitch & Sons, Chelsea, received a Silver Flora Medal for a fine group of hybrids, including good forms of Lælio-cattleya × Statteriana, L.-c. × Decia, L.-c. × Ægina, and other Lælia Perrinii hybrids, L.-c. × leucoglossa, L.-c. × Zixa (C. Mendelii × L.-c. × bella), Lælia × Digbyano-purpurata, Cattleya × Mantini with nineteen flowers, some good Cypripedium insigne Sanderæ, &c.

M. C. Beranek, Rue de Babylon, Paris, received an Award of Merit for Cypripedium × Rolfei superbum (bellatulum × Rothschildianum), a very large and handsome form. He also sent a white form of Cattleya labiata tinged with pink on the lip.

Messrs. Hugh Low & Co., Bush Hill Park, sent a small choice group, including the fine Cypripedium insigne Harefield Hall var., with four

flowers, C. i. Sanderæ, C. i. Ernesti, C. i. Laura Kimball, C. callosum Gratrixiæ, &c.

AT the meeting held on December 13th, in connection with the Colonial Fruit Show, there was a much larger display of Orchids.

Sir William Clayton, Bart., Harleyford, Marlow (gr. Mr. Sharpe), staged a fine group of beautifully-grown Calanthe × Veitchii, effectively arranged with ferns and foliage plants, to which a Silver Banksian Medal was given.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), received an Award of Merit for Cypripedium × aureum Lambianum, having pale greenish yellow flowers, with the upper half of the dorsal sepal white.

N. C. Cookson, Esq., Oakwood, Wylam (gr. Mr. Chapman), sent Odontoglossum Pescatorei Charlesworthii, bearing a strong branched spike of thirty flowers, O. × Andersonianum Oakwood var., Cypripedium × Leeanum Clinkaberryanum with four flowers, and C. × Dom Carlos (Godefroyæ leucochilum × Lawrenceanum), a pretty cream-white flower, tinged with green on the dorsal sepal, and spotted with purple on the petals and inside of the lip, the latter receiving an Award of Merit.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), sent the interesting Cypripedium × Sandero-selligerum, having the drooping petals six inches long, the handsome Odontoglossum × Duvivierianum Burford var., and Gomesa Binotii, a Brazilian plant bearing about thirty racemes of orange-yellow flowers, the latter receiving a Botanical Certificate.

W. M. Appleton, Esq., Weston-super-Mare (gr. Mr. Brooks), sent Cypripedium × Thornianum (Charlesworthi × Sallieri Hyeanum), C. × tessellatum nigrum, C. × Fred Hardy excellens, C. insigne Brookii and Lælio-cattleya × Clive superba.

Walter Cobb, Esq., Tunbridge Wells, sent Cypripedium × Prospero album, with pale greenish yellow flowers and the upper part of the dorsal sepal white.

Captain Holford, C.I.E., Westonbirt (gr. Mr. Alexander), sent the striking Epicattleya × Lilianæ (E. costaricense × C. Gaskelliana alba), having greenish white fragrant flowers, Lælio-cattleya × Ingrami superba, L.-c. × Ophir superba, with bright orange-yellow flowers, and Cypripedium × G. F. Moore, a large and handsome hybrid of the C. × Hera type.

H. Little, Esq., Baronshalt, Twickenham (gr. Mr. Howard), showed Cattleya Percivaliana Little's var., having a very richly coloured lip.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Smith), sent cut flowers of Cypripedium.

J. Wilson Potter, Esq., Elmwood, Croydon (gr. Mr. Young), sent

Odontoglossum × waltonense Elmwood var., having canary-yellow flowers, blotched with brown on the sepals, and a large blotch on the lip.

The Marquis de Wavrin, Chateau de Ronsele, near Ghent, sent two plants of Lælio-cattleya × ronselensis (C. Forbesii ♀ × L. cinnabarina), a pretty hybrid having orange-yellow flowers varied with rose-purple on the lip. The seeds were sown on April 24th, 1902, and the first flower opened on December 1st, 1904, less than three years from the date of sowing, an unusually short period.

F. Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent the fine Cypripedium × westfieldiense (Leeanum superbum × Pollettianum), having much of the rich colour of the latter, but the dorsal sepal whiter and with smaller spots, C. × Angeliæ superbum, C. × Charlesianum aureum, and the fine C. × nitens Westfield var.

Messrs. Charlesworth and Co., Heaton, Bradford, staged a very fine group, to which a Silver-gilt Banksian Medal was awarded. It contained a number of plants of the beautiful Trichopilia suavis, a nice lot of the orange-coloured Lælio-cattleya × Charlesworthii, several L.-c. × Lydia (L. Cowanii × C. Gaskelliana alba), with primrose-coloured flowers, L.-c. × luminosa, Lælia × Digbyano-purpurata, Oncidium incurvum album, Cypripedium × Sunray (Charlesworthii × Leeanum Albertianum), &c.

Messrs. Hugh Low & Co., Bush Hill Park, showed Cypripedium insigne, Mrs. F. W. Moore, a fine yellow variety, and Cattleya labiata, Mrs. Gustave H. Muller, a beautiful white variety, having a bluish lilac veined blotch on the front of the lip, the latter receiving an Award of Merit.

Mr. H. A. Tracy, Twickenham, sent a pretty hybrid Cypripedium derived from C. ciliolare and C. Charlesworthii, being four rosy flowers, and C. × Tracyanum (aureum × Leeanum giganteum), the latter a very fine hybrid, having a white dorsal sepal, emerald green at the base, with a broad, dark purple median band, an Award of Merit being given to the latter.

Messrs. Sander and Sons, St. Albans, sent a few good things, including the handsome Lælio-cattleya × Phryne (L. xanthina × C. Warscewiczii), Cypripedium × Hitchinsiæ pulchrum, C. × nitens, and C. × Helen II. var. exquisitum.

Messrs. Stanley and Co., Southgate, sent Cypripedium × Leeanum giganteum, C. × Niobe, a few plants of Cattleya Loddgesii, Lælia autumnalis unicolor, &c.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on November 24th last, when owing to a sharp frost the exhibits were not numerous, though a few good things put in an appearance.

E. Rogerson, Esq., Didsbury (gr. Mr. Blomeley), received a First-class Certificate for a handsome hybrid between Lælia tenebrosa and Cattleya bicolor, and an Award of Merit for Cypripedium × Charles Richman superbum.

Dr. A. B. Ritchie, Manchester, made his *debut* as an exhibitor, and gained an Award of Merit for Cypripedium × Milo Summer Lea var.

Walter Laverton, Esq., Victoria Park, Manchester (gr. Mr. Smith), staged a nice group of Cypripediums, which gained a Silver Medal.

M. Ch. Vuylsteke, Ghent, exhibited a small group of choice Odontoglossums, and was accorded a Vote of Thanks, while a First-class Certificate went to a fine form of O. × ardentissimum, and a Cultural Certificate to a well-grown O. crispo-Harryanum.

Messrs. John Cowan and Co., Gateacre, and Messrs. Sander and Son, of St. Albans, each received a Bronze Medal for a group of interesting things, while Votes of Thanks were accorded to Dr. Roberts, Hale, and Messrs. A. J. Keeling and Sons, Bradford, for small groups.

MILDER weather prevailed on December 8th, when another meeting was held, and there was a very fine display, Cypripedes being present in great force.

Dr. Alex. Hodgkinson, Wilmslow (gr. Mr. Woore), received an Award of Merit for the new Javan Cypripedium glaucophyllum, an ally of C. Chamberlainianum, and a Cultural Certificate for a fine plant of C. insigne Sanderæ.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), received a First-class Certificate for Cypripedium insigne Gladys, a beautiful yellow variety, and C. × Euryades incomparabile.

A. Warburton, Esq., Haslingden, received a First-class Certificate for Cypripedium × Victor, a large and handsome hybrid of doubtful parentage.

S. Gratrix, Esq., Whalley Range (gr. Mr. Cypher), received Awards of Merit for Cypripedium × Evelyn Ames and C. × Mr. F. Sander.

E. Ashworth, Esq., Wilmslow (gr. Mr. Holbrook), received an Award of Merit for Cypripedium × aureum Lambianum.

Dr. Roberts, Hale, received an Award of Merit for Cypripedium insigne Luna.

Walter Laverton, Esq., Manchester (gr. Mr. Smith), received a Bronze Medal for a small group of Cypripedes.

Messrs. Charlesworth & Co., Bradford, staged a choice group of plants, which received a Silver Medal, while a First-class Certificate went to Cypripedium × Dom Carlos, and an Award of Merit to C. insigne giganteum heatonense.

Messrs. James Cypher & Sons, Cheltenham, also gained a Silver Medal

for a choice group of well-grown plants, and Awards of Merit for Cypripedium insigne bisepalum, C. i. Commander-in-Chief, and for a fine hybrid derived from C. × Harrisianum superbum × C. Mastersianum.

Messrs. A. J. Keeling & Sons, Bradford, received a Bronze Medal for a small group, and Awards of Merit for Cypripedium × Prewettii superbum and C. insigne Mars.

Votes of Thanks were also accorded to G. W. Law-Schofield, Esq., Rawtenstall, Messrs. John Cowan & Co., Gateacre, and Mr. D. McLeod, Chorlton, for small groups.

WE regret that two errors crept into our report of the meeting held on November 10th. Lælio-cattleya × Arderniæ and Cattleya labiata Lady Duff, each receiving a First-class Certificate, not an Award of Merit, as stated at page 368.

THE HYBRIDIST.

LÆLIO-CATTLEYA × SCHNEIDERI.—This is a very promising hybrid raised by M. Emile Cappe, of Vesinet, France, from Lælio-cattleya × Amelia fertilised with the pollen of Cattleya Dowiana aurea. The flower sent is most comparable with L.-c. × Charlesworthii, but is lighter in colour, being light buff-yellow, with very little trace of the characteristic Dowiana veining on the lip. M. Cappe remarks that it is the first seedling of the cross which has bloomed, and that the plant is still very small, having only four bulbs, one of which has now produced a two-flowered raceme. The seeds were sown in April, 1901. The pollen masses are said to be four in number, as in Cattleya. M. Cappe wishes it to be dedicated to Mr. G. Schneider, late foreman in the fern department of Messrs. James Veitch & Sons, of Chelsea. It is likely to develop into a handsome thing when the plant becomes strong.

LÆLIO-CATTLEYA × PERSEUS.—A pretty little hybrid raised in the collection of the Right Hon. J. Chamberlain, M.P., Highbury, Birmingham, from Cattleya × Minerva × Lælio-cattleya × Clive. The flowers most resemble C. Bowringiana in general character, the sepals and petals being light-purple, with some yellow in the throat of the lip, and a very broad intense purple band at the apex of the front lobe. The plant has evidently not yet reached its full development. It is curious to note that a hybrid from Cattleya × Mantini and Lælio-cattleya × Leeana would be derived between the same four species in the same proportions.

BRASSOCATTLEYA × SANDERI.—This is a very distinct and handsome hybrid from Cattleya Schrœderæ ♀ and Brassavola glauca ♂, which was raised by Messrs. Sander & Sons, and flowered for the first time in their

establishment at St. Albans, in August 1903. A flower has now been sent from the collection of Sir Frederick Wigan, Bart., Clare Lawn, East Sheen, of which we have secured a good photograph, and hope to publish the same next month.

MILTONIA VEXILLARIA.—Concerning the culture of this beautiful Orchid a writer in '*Horticulture*' remarks that it is "very impatient of anything approaching dryness, either in the atmosphere or at the roots, owing to its being found wild where there is fog and rain every day in the year—indeed the late Consul Lehmann, in describing the habitat of this Miltonia, stated that the conditions under which the plant grew, were as nearly uniform during the whole year as it is possible to find; hence we have to place the plants in the coolest possible place in summer with shade, while in winter, when most growth is made, a genial temperature of 55° to 60° is essential. A very successful cultivator in Massachusetts carries the plants through the hot months in a cold frame. It is found that these plants, like all other Orchids, will take stimulants when in active growth, and will be benefited thereby if applied in homœopathic doses. This is the great secret in keeping the plants in vigour. How often has it been remarked that many of the difficult genera of the Orchid family are very successfully grown near the smoky centres of industry, where rain water is carefully conserved for use on the plants. Doubtless the deposit of soot on the glass roofs is largely the factor that makes for success."

ODONTOGLOSSUM CRISPUM PERFECTION.

A FLOWER of this remarkably handsome variety is sent from the collection of J. Leemann, Esq., of Heaton Mersey, and its history is given by Mr. Edge. It was purchased in 1901, Messrs. John Cowan & Co. having received a First-class Certificate for it, from the Manchester Orchid Society, on May 16th (*O. R.*, ix., p. 189). It was then a small plant with two bulbs. It was painted, and in 1902 divided, but it has improved so much, Mr. Edge remarks, this time of flowering that "we have had to send it to Macfarlane to repaint for us, and I feel certain that in two or three years time it will be better still, as it is a good grower, and will make even larger bulbs than it has done. I am hoping some day this crispum will be as fine as any in England." The flower is remarkably round, owing to the very broad short segments, and each of the sepals and petals has one enormous red-brown blotch in the centre, while the blade of the lip is also nearly circular, and bears numerous smaller blotches of similar colour. It is one of the roundest heavily blotched forms that we have seen, and remarkably handsome.

ODONTOGLOSSUM CERVANTESII.

ODONTOGLOSSUM CERVANTESII is a charming little winter- or spring-flowering species, nearly allied to O. Rossii, whose culture is described by Mr. Mackay on page 6, and it may therefore be interesting to reproduce the

Fig. 6. ODONTOGLOSSUM CERVANTESII.

figure of an excellent little specimen from the collection of R. W. Rickards, Esq., The Priory, Usk, Monmouthshire. The plant is flowering very freely, and it shows what the species is capable of when well grown. O. Cervantesii is a native of South Mexico and Guatemala, and was introduced to

cultivation by Messrs. Loddiges, of Hackney, as long ago as 1847. It is somewhat variable. The variety decorum is characterised by its larger flowers; punctatissimum by the large amount of spotting on the segments, and roseum by its pale rose-pink flowers. All are very floriferous when well grown.

ORCHIDS IN SEASON.

BRILLIANTLY-COLOURED Orchids are particularly welcome at this dull season of the year, and their numbers are steadily increasing by the accession of new hybrids. Two handsome things are sent for the collection of Jeremiah Colman, Esq., Gatton Park, Reigate, by Mr. Bound, which were raised in the collection. Lælio-cattleya × epicasta superba is a very large and handsome form, raised from Cattleya Warscewiczii × Lælia pumila præstans. The flower measures 5½ inches across, and the petals are two and one-eighth inches broad. The colour is rosy lilac, with the front lobe of the lip intense purple-crimson, which colour extends round the apex of the side lobes, while the throat is light yellow, lined with purple down the centre. L.-c. × Adolphus is an example of quick flowering. Mr. Bound states that the seeds were sown on March 14th, 1902, and the first flower opened on November 30th last, which is surely a record in Lælio-cattleya. The spike has four flowers, of the usual rich reddish orange colour, spotted with brown, and the lip is rosy crimson in front, with light yellow side lobes and some deep yellow on the disc.

Dendrobium Phalænopsis illustris is a large and very richly-coloured variety which was exhibited by Messrs. Hugh Low and Co., Bush Hill Park, at the R.H.S. meeting on December 13th, and of which a flower has been sent to us. Cattleya labiata Mrs. Gustav H. Müller, to which an Award of Merit was given on the same date, is also sent. It is a beautiful variety, slightly tinged with pale lavender, and having a bluish-lavender blotch, with rather darker veins on the front lobe of the lip. It is now in the collection of G. H. Müller, Esq., of Rotterdam.

Paphiopedilum venustum is not often seen with twin-flowered scapes, but an example is sent from the collection of E. J. Lovell, Esq., Oakhurst, Oxted, by Mr. A. L. Jones. It is probably the result of good culture.

Several interesting flowers are sent from the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell, by Mr. Smith, who remarks that the fog has played sad havoc this year. Lælia autumnalis alba and L. anceps alba are two beautiful albinos, the latter being without any trace of the usual dark veining on the lip. A flower of Phragmopedilum Lindleyanum is taken from a fine plant bearing two spikes upwards of two feet in length. Paphiopedilum × Hera Cambridge Lodge var. has the dorsal sepal very

regularly blotched with purple-brown, and the petals and lip well suffused with a lighter shade. P. insigne Arthurianum is a well-shaped flower, having the dorsal sepal well spotted, and the petals and lip suffused with purple-brown. There are also the well-known P. × Leeanum superbum, P. × L. giganteum, and a peculiar form of P. × nitens having the dorsal sepal rather narrow and very regularly blotched with purple-brown, the blotches being rather small and numerous. There are also six forms of P. × Leoniæ (insigne Cambridge Lodge var. × callosum), from Mr. Measures' country seat in Hampshire (gr. Mr. Wootton), one of which is a fine, well-coloured form, and the others much paler.

Several very interesting flowers are sent from the collection of J. J. Neale, Esq., of Penarth, by Mr. Haddon. Seraphyta multiflora is represented by a fine branching panicle of light green Epidendrum-like flowers. The plant is grown in a basket suspended from the roof of the Warm house, and bears four panicles of flowers. *Zygopetalum pallidum* is an ally of *Z.* Mackayi with rather smaller flowers, the plant bearing three spikes of eight and nine flowers. Masdevallia is represented by M. Veitchiana grandiflora, the rare M. Barlæana, M. × splendida, a pretty natural hybrid derived from the two preceding, M. troglodytes, and M. muscosa. Epidendrum glumaceum is a fragrant, nearly white-flowered species from Central America. The other flowers sent are a good dark form of *Odontoglossum tripudians*, O. maculatum, Brassovala nodosa, and the curious little Pleurothallis elachopus. They form a very interesting little group.

A large and richly-coloured form of Lælia pumila is sent from the collection of J. H. Grogan, Esq., Slaney Park, Baltinglass (gr. Mr. Cooper), also fine flowers of Paphiopedilum × Leeanum giganteum, P. × Lathamianum and its variety inversum, together with a very promising seedling from P. insigne Chantinii × P. × Calypso Oakwood var., which latter will rank as a variety of P. × Melia (*O.R.*, 1902, p. 61). The dorsal sepal is heavily blotched with blackish purple, in which respect it recalls P. Boxallii. It should be a good thing when the plant becomes strong.

A flower and drawing of a remarkable Paphiopedilum are sent from the collection of Eustace F. Clark, Esq., Chamonix, Teignmouth. It is a seedling, and has produced two twin-flowered scapes, in which the basal flower occupies the usual position, but the other has a rather long pedicel and droops over beneath the first, so that both flowers are well displayed. Its origin is doubtful, it being purchased at a sale with an impossible record. It comes rather near to P. × Harrisianum, both in flower and leaf, but the petals are slightly falcate, and we are inclined to considər it to be a form of P. × Indra, derived from P. callosum and P. villosum.

A flower of the very handsome Lælio-cattleya × bletchleyensis var.

Mrs. James Gresham is sent from the collection of J. Leemann, Esq., of Heaton Mersey, by Mr. Edge. The flower is of excellent shape, and the sepals and petals are ivory white, while the lip is bright purple, with a paler crisped margin, and some darker veins in the throat. It was raised by Messrs. Sander & Sons, at Bruges. Odontoglossum × loochristiense splendens is also sent. It is a very handsome yellow form, very regularly blotched with dark brown on both sepals and petals, those on the latter being rather more broken up.

A flower of the very handsome Westonbirt variety of Paphiopedilum × Niobe is sent from the collection of Captain Holford, Westonbirt, Tetbury. The flower is excellent is shape, and the dorsal sepal is beautifully veined throughout with purple, which becomes deeper on the median band. The petals are also strongly veined with purple-brown, and the margin is very undulate.

A charming little hybrid from Paphiopedilum × Leeanum superbum × P. Charlesworthii is sent from the collection of H. J. Hunter, Esq. of Edinburgh, which must be classed as a variety of P. × longwoodense. The dorsal sepal is very prettily marked with purple, and it is likely to develop into a fine thing.

PROMENÆA LENTIGINOSA.

AT the R.H.S. meeting held on November 1st last a pretty little Promenæa was exhibited by Messrs. Charlesworth & Co., Heaton, Bradford, as a supposed natural hybrid, and was recorded as *Zygopetalum* × xanthino-stapelioides (*Gard. Chron.*, 1904, ii. p. 323). On comparison it proved to be the very rare P. lentiginosa, Lindl. (*Orch. Rev.*, 1904, p. 364). Whether the suggested origin is correct is perhaps not quite certain, but it is at least a plausible one and there is a seedling derived from this parentage in the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks, which we hope will in due time clear the matter up. The species was originally described in 1839, under the name of Maxillaria lentiginosa (*Bot. Reg.* XXV., Misc., p. 61), when Lindley remarked:—"A plant very like Maxillaria stapelioides; but the sepals are more acute, the purple spots redder, more distinct, and less run into bars; the lip is of the same colour as the petals, and its transverse crest has a square, three-toothed process in the middle. Imported from Brazil by Messrs Loddiges." Afterwards, in 1843, when Lindley broke up Maxillaria, and established the genus Promenæa, and others, the species became Promenæa lentiginosa, but nothing further was added to its history. Whatever its origin, it is a very rare plant, and there are one or two others of which a similar remark might be made. It would be interesting to have the matter cleared up.

R. A. ROLFE.

PAPHIOPEDILUM GLAUCOPHYLLUM.

PAPHIOPEDILUM glaucophyllum is a remarkable species which was discovered near Turen, East Java, and described by Mr. J. J. Smith, of the Buitenzorg Botanic Garden, in 1900 (*Bull. Inst. Bot. Buitenz.*, vii., p. 1), and afterwards figured (*Ic. Bogoriens.*, ii., p. 3, t. 101, fig. A). When at Brussels, in April, 1903, M. Linden showed me a painting of a supposed new species which had been discovered by M. Rimestad, in Java, which I immediately recognised as the above plant, for Mr. Smith had previously shown me his drawing, which was at this time unpublished. M. Rimestad's drawing was afterwards published as Cypripedium (Paphiopedilum) glaucophyllum (*Gard. Chron.*, 1903, ii., p. 405, fig. 161, with suppl. plate, and *Rev. Hort. Belge*, 1904, p. 193, with plate), the latter being in colour. Then came evidence of the plant being in cultivation, a plant in flower being exhibited by Messrs. Charlesworth & Co. at the R. H. S. meeting held on September 20th last (*O. R.*, 1903, p. 308), while on December 8th a plant was exhibited at a meeting of the Manchester Orchid Society by Dr. Hodgkinson, of Wilmslow, and received an Award of Merit. It has also flowered in the collection of M. Réné Oberthur, of Rennes, France, an inflorescence having been sent through M. Maron, of Brunoy. According to M. Ch. Pynaert the species was first introduced to Europe on July 2nd, 1904 (*Rev. Hort. Belge*, *l.c.*), so that it has not yet had time to become properly established.

It is a near ally of the two Sumatran species, P. Chamberlainianum Pfitz. (*Bot. Mag.*, t. 7578) and P. Victoria-Mariæ, Rolfe (*l.c.*, t. 7573), but differs in various particulars, among which the glaucous leaves, smaller bracts, and very hairy twisted petals are very conspicuous features.

R. A. ROLFE.

OBITUARY.

FRANK ADOLF REHDER.—We regret to hear of the death of this young and enthusiastic Orchidist, which took place on November 29th last. Mr. Rehder, who was only in his 42nd year, was a member of the R.H.S. Orchid Committee, and the possessor of an interesting collection of Orchids at his residence at Gipsy Hill. It will be remembered that the handsome Dendrobium × Margaret, which was described at page 124 of our eleventh volume, appeared in this collection. It was suggested to be a natural hybrid between D. nobile and D. Bensonæ, a point which it would be interesting to have cleared up.

LEO GRINDON.—This well-known author passed away on November 20th last in his 87th year. He was an enthusiastic botanist and lecturer, and is perhaps best known to Orchidists as the author of the *Fairfield Orchids*, which contains a good deal of interesting information about these plants.

NOTES.

Two meetings of the R.H.S. will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during January, on the 3rd and 24th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Corn Exchange, Manchester, on January 5th and 19th. The Orchid Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

We regret to receive a notification that *American Gardening* has been discontinued, presumably owing to lack of support. It may be remembered that a few years ago a similar fate befel that excellent journal, *Garden and Forest.*

Messrs. Charlesworth & Co., Heaton, Bradford, write with respect to Stanhopea anfracta (described at page 357 of our last volume) that the plant was collected by Mr. Charlesworth, when travelling with Hennis on a cool hill-top on the second cordillera on the East side of the Andes of Peru, at about 3000 to 4000 feet above sea level. It was found growing with Lycaste gigantea, on the ground, among short grasses. This we believe is a rather uncommon habitat for a Stanhopea.

We have received a photograph of a group of three remarkable specimens from the collection of W. Duckworth, Esq., Shawe Hall, Flixton, to which the Manchester Orchid Society awarded a Gold Medal on December 15th. They are Paphiopedilum insigne Sanderæ and P. i. Harefield Hall var., each bearing a dozen flowers, and P. × Leeanum giganteum with twenty-one. They are remarkable examples of good culture, and Mr. P. Weathers, of Old Trafford, through whom the photograph was sent, remarks :—"They were indeed a picture."

Messrs. Longmans & Co. are about to publish a work by H. Rider Haggard, entitled "A Gardener's Year," with 26 illustrations. It is described as a record kept throughout the year of the various operations carried on in a Norfolk garden of moderate size, in which a good many varieties of fruit trees, flowers—including Orchids—and vegetables are grown.

The Frontispiece to the last volume of the *Revue de l'Horticulture Belge* consists of a remarkably fine specimen of Cymbidium Lowianum, from the collection of M. J. H. Tromp-Meesters, of Steenwyk, Holland. This specimen obtained the first prize at the Ghent Quinquennial Exhibition in April, 1903, and again obtained honours at Dusseldorf and at Harlem, in May last.

The December issue of the interesting little *Dictionnaire des Orchidées* contains figures of Cattleya velutina, Cypripedium × Manto, C. × Orion, C. × Villebois Mareil, Epidendrum prismatocarpum, E. raniferum, Eria clavicaulis, Eulophidium Ledieni, Lycaste Skinneri hellemmensis, Odontoglossum × armainvillierense var. ardentissimum, Oncidium Warscewiczii and Schomburgkia undulata.

On January 13th, 1903, an Award of Merit was given by the R. H. S. to Cypripedium × Samuel Gratrix var. Minnie from the collection of Francis Wellesley, Esq., Westfield, Woking (*O. R.*, xi., pp. 50, 63). Another flower has now been received, showing that it has developed into a remarkably fine thing. It is a hybrid between P. × Leeanum superbum and P. × nitens superbum, and has a very large white dorsal sepal, tinged with green at the base, and very regularly spotted with purple above.

EXCHANGE OF DUPLICATES.—This question was discussed at pages 351, 373 and 374 of our last two issues, and it will be seen that the matter has now taken tangible form, four lists of Duplicates and Desiderata which have been received, being inserted in our advertisement pages.

ORCHIS LATIFOLIA × MACULATA.—It would appear that hybrids between O. latifolia and O. maculata may occur wherever the two species grow intermixed. They have been recorded from several localities, and now a station in Cornwall is added. Mr. F. H. Davey, F.L.S., remarks (*Further Contributions to the Cornish Flora*, p. 5) :—"Hybrids of these two species occur in the Trewedna Valley, in the parish of Perran-ar-worthal. Now attention has been directed to them they will doubtless be found in other parts of the country. The plants have the solid stems and spreading leaves of O. maculata, and the large flowers of O. latifolia."

ORCHID PORTRAITS.

BULBOPHYLLUM WEDDELII.—*Gard. Chron.*, 1904, ii., p. 382, fig. 167.

CATASETUM PILEATUM AUREUM.—*Journ. Hort.*, 1904, ii., p. 543, with fig.; *Garden*, 1904, ii., p. 445, with fig.; *Gard. Mag.*, 1904, pp. 829, 831, with fig.

COCHLIODA NOETZLIANA, Rolfe.—*Bot. Mag.*, t. 7990, fig. 3.

CYMBIDIUM LOWIANUM (specimen plant).—*Rev. Hort. Belge*, 1904, p. 276, with frontispiece.

CYPRIPEDIUM × HARRISIANUM ("a two-fold flower").—*Gard. Chron.*, 1904, ii., p. 411, fig. 175.

CYPRIPEDIUM × HELEN var. FASCINATOR.—*Gard. Mag.*, 1904. pp. 774, 795, with fig.

CYPRIPEDIUM INSIGNE ODDITY.—*Gard. Chron.*, 1904, ii., p. 444, fig., 193.

CYPRIPEDIUM × NIOBE WESTONBIRT VAR.—*Gard. Mag.*, 1904, pp. 794, 812, with fig.: *Journ. Hort.*, 1904, ii., p. 519, with fig.

CYPRIPEDIUM × ROLFEI SUPERBUM.—*Gard. Chron.*, 1904, ii., p. 399, fig. 171; *Gard. World*, 1904, p. 1041, with fig.

CYPRIPEDIUM × TRIUMPHANS var. MAGNIFICUM.—*Gard. Mag.*, 1904, p. 794, with fig.

DENDROBIUM DENSIFLORUM ALBO-LUTEUM.—*Gard. World*, 1904, pp. 975, 983, with fig.

LÆLIA PUMILA.—*Journ. Hort.*, 1904, ii., pp. 474, 475, with fig.; (At Gatton Park.)—*Garden*, 1904, ii., p. 385, with fig.

LÆLIO-CATTLEYA × CAPPEI CHARLESWORTH'S VAR.—*Gard. Mag.*, 1904, p. 841, with fig.

LÆLIO-CATTLEYA × MOSSIÆ-ELEGANS.—*Wien. Ill. Gart.-Zeit.*, 1904, p. 445, t. 4.

ODONTIODA × VUYLSTEKEÆ.—*Bot. Mag.*, t. 7990.

ODONTOGLOSSUM × ANDERSONIANUM VAR. CRAWSHAYANUM.—*Journ. Hort.*, 1904, p. 497, with fig.

ODONTOGLOSSUM CRISPUM AMESIANUM.—*Journ. Hort.*, 1904, ii., p. 567, with fig.

ODONTOGLOSSUM NOBILE, Rchb. f.—*Bot. Mag.*, t. 7990, fig. 2.

PHALÆNOPSIS GRANDIFLORA.—*Wien. Ill. Gart.-Zeit.*, 1904, pp. 254, 255, fig. 65.

PHALÆNOPSIS × LEUCORRHODA.—*Wien Ill. Gart.-Zeit.*, 1904, p. 252, fig. 64.

CORRESPONDENCE.

[Correspondents not answered here will find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.]

J.M.B.—The small Australian Dendrobium is D. ernulum, R. Br.

J.J.N.—The flower approaching Cœlogyne ochracea in colour, but having a very different habit, is Maxillaria alba, Lindl.

F.L.C.—The Odontoglossum flowers failed to reach us.

J.B.—Cœlogyne lentiginosa, a native of Burma.

A.E.W.B.—Odontoglossum varicosum var. insigne.

F.J.H.—We should be glad to have a copy of the photograph.

Photographs received, with thanks:—W.S., F.W.

ERRATUM.—The name underneath the block on page 16 should read P. vexillarium not "venillarium" var. Rex. The mistake was overlooked till the first sheet had been printed off.

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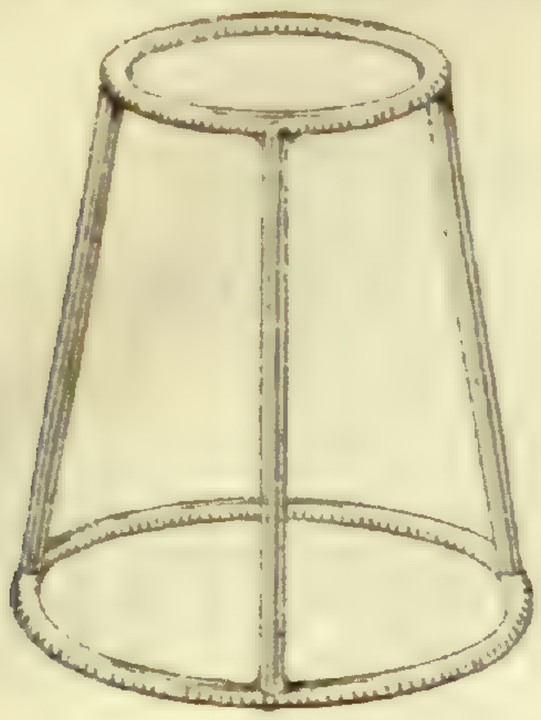

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EXCHANGE.

[Amateurs desiring to avail themselves of this column are invited to send lists of Duplicates and Desiderata, such lists not to exceed twenty names, and to be accompaniod by the name and address of the sender, accompanied by a fee of one shilling to cover the cost. It is understood that the senders are responsible for the correctness of the plants offered.]

Duplicates.—Odontoglossums triumphans Lionel Crawshay, t. Raymond Crawshay, crispum Raymond Crawshay, c. Crawshayanum, c. rosefieldiense, c Venus, c. Florrie, c. Seraphim, c. Princess May, c. aureum rosefieldiense, nevadense rosefieldiense, nebulosum Crawshayanum, Wattianum Crawshayanum, citrosmum rosefieldiense, Andersonianum Bagaerdeanum, A. Mrs. de B. Crawshay, Uroskinneri Crawshayanum, Lælias Schröderæ Crawshayana, and S. Theodora.—*De Barri Crawshay; Rosefield, Sevenoaks.*

Duplicates.—Seedlings offered in exchange: Lælia tenebrosa × purpurata, t. × L. crispa, t. × Cattleya Harrisoniæ, t. × C. gigas, t. × Brassavola Digbyana, L. purpurata × Cattleya gigas, p. × Brassavola Digbyana, L. cinnabarina × Cattleya Trianæ, c. × C. Schroderæ, L. elegans Schilleriana × Cattleya gigas, L præstans Dayaua × Cattleya Bowringiana, L. Perrinii × Cattleya labiata. *Dr. Cranstoun; Ludlow.*

Duplicates.— Small propagated pieces of the following Dendrobiums: D. nobile nobilius James' var., n. elegans Thwaites' var. and elegans Burford var., n. Ballianum, n. burfordiense, n. Harefield Hall var., n. Tollianum, euosmum leucopterum, Ainsworthii fine variety, A. Hazelbourne var., A. intertextum, Wiganiæ xanthochilon (small piece from original Burford plant), Wiganianum, splendidissimum grandiflorum Thompson var., splendidissimum × D. nobile Wallichianum (ex. Harefield Hall), Owenianum pulchellum, Rubens grandiflorum, Juno F.C.C. var., Euryades, Leechianum, Dominianum dark var. (ex Harefield Hall), and many others.—*Desiderata.*—Seedlings or single growths of good Cypripediums, either species or hybrids. Finest varieties only wanted. —*F. J. Hanbury; Stainfurth House, Upper Clapton.*

Duplicates.—Dendrobiums densiflorum, suavissimum, Phalenopsis Schrœderianum, formosum giganteum, and Oncidium sphacelatum. *Desiderata.* — Odontoglossum Insleayi and O. Schlieperianum —*David A. Law; Buersill, Rochdale.*

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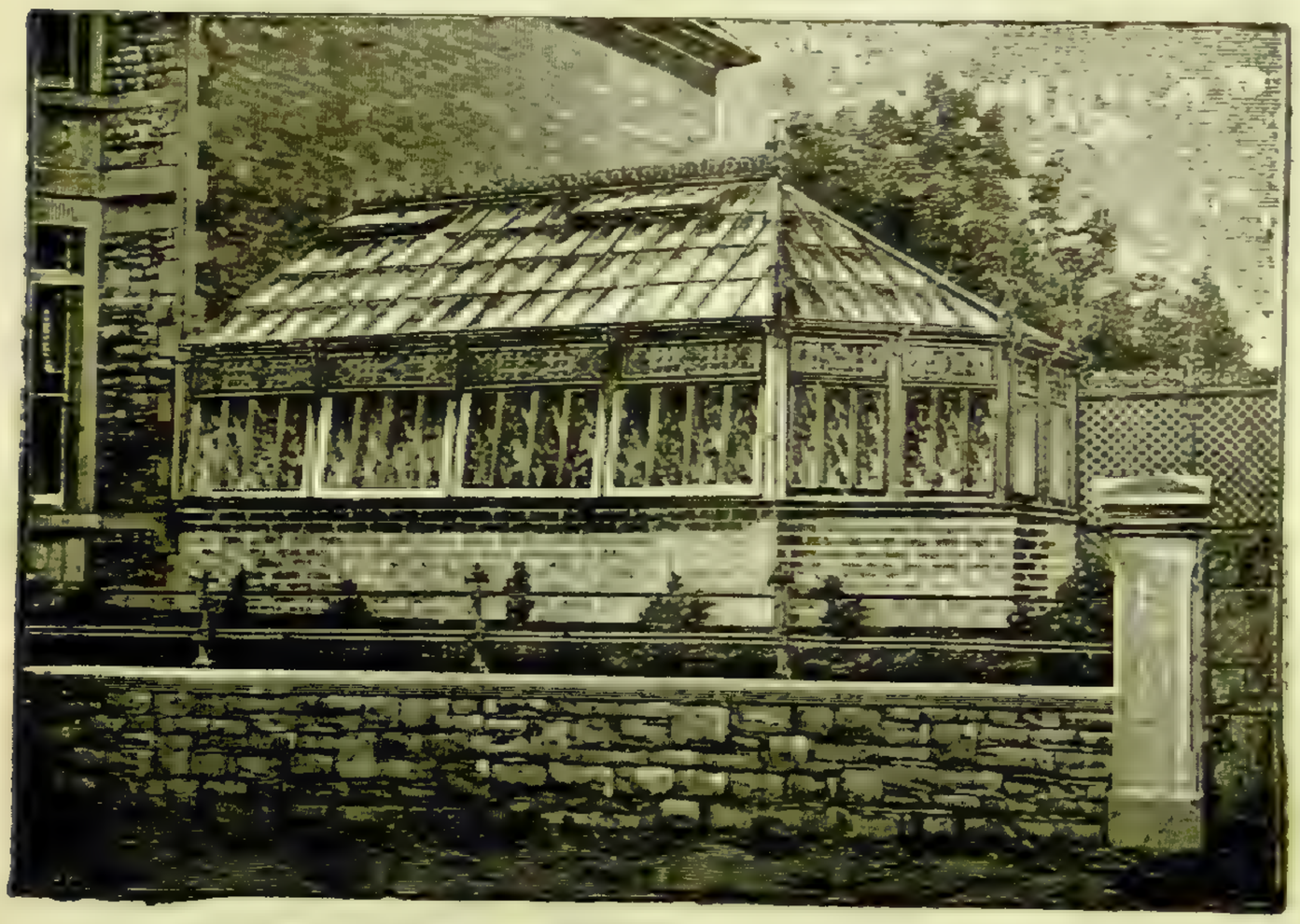

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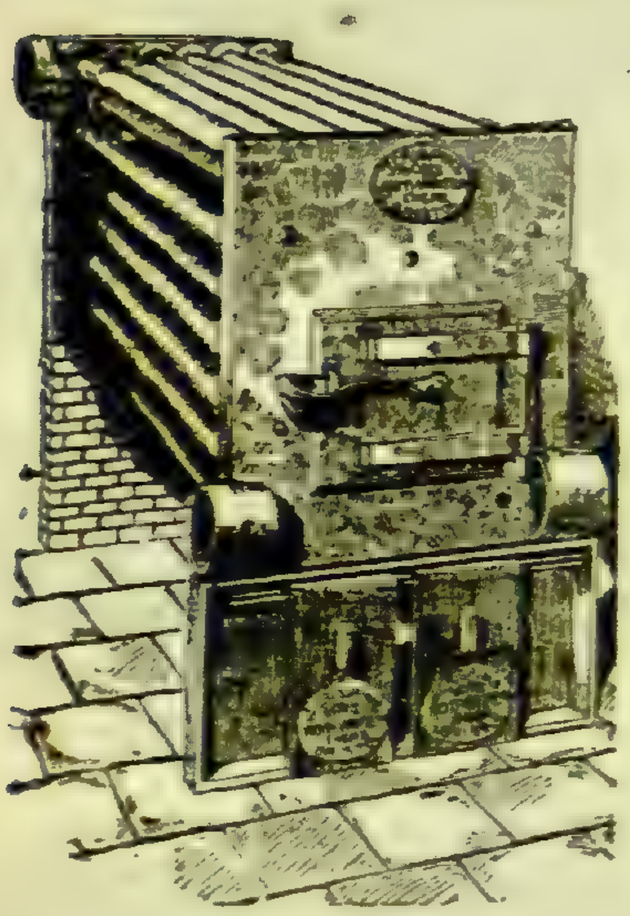

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THE ORCHID REVIEW:

An Illustrated Monthly Journal of Orchidology.

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THE ORCHID REVIEW.

VOL. XIII.] *FEBRUARY*, 1905. [No. 146.

OUR ILLUSTRATIONS.

WE have again had some interesting correspondence respecting the illustrations in the *Orchid Review*. One of our American correspondents is much pleased with the botanical rarities which have appeared, and hopes to see the number increased. Another has pointed out several figures as excellent, both photographically and as illustrations of the plants they represent, while others, though accurate, might be improved artistically. One correspondent alludes in very complimentary terms to the series of figures illustrating the article on Paphiopedilum Fairrieanum and its hybrids, which it will be remembered were from paintings (as also are two of those which appear in the present issue), and which to some extent raises the old question of photographs *versus* drawings.

Respecting the latter point we may remark that we had particularly accurate drawings to work from, especially in the case of P. × vexillarium and P. × Juno (pp. 16, 17), which we think are artistically superior to P. × Ballantinei, given on the succeeding page. All drawings, however, are not equally accurate, as is too painfully evident by a glance at some of those purporting to represent some of our popular garden Orchids. The work of the camera often leaves something to be desired in point of effect, but it generally records the details that are presented to it, nothing extenuating, nor aught set down in malice. It is true that the colours do not always come out in their true values, but even this can now be remedied.

In this connection we may mention three excellent photographs which have been sent to us by B. J. Beckton, Esq., Daisy Bank, Irlams-o'-th'-Height, Manchester. Mr. Beckton has had over thirteen years' experience in photography, during which period he has devoted most of his spare time to it, and he remarks that there is now no colour or combination of colours which cannot be reproduced correctly in monochrome, and keeping their proper values, by the use of suitable isochromatic plates and adjusted light filters. These photographs represent a plant of Paphiopedilum insigne

Sanderæ, and flowers of P. × Henry Graves and P. callosum, the two former being on smooth gelatine-surfaced paper, and the latter on bromide paper. All are remarkably sharp, full of detail, and what is particularly noticeable is that the colours have come out as nearly as possible in their true values. We could wish to always have photographs of such excellence.

We have received a large number of photographs which have been unsuitable for reproduction from one or two causes. Some, though excellent photographically, have represented the commonest things, which have been figured over and over again, and others have been so poor that, even when representing specially interesting things, we could not use them. The faults have been chiefly due to incorrect exposure, want of sharpness through incorrect focussing (possibly snap-shots), or want of contrast through the use of an unsuitable background. A few have been due to attempting to photograph flowers of difficult colours without suitable apparatus. One has to remember that photographs are reproduced automatically by the half-tone process, with all their flaws or want of contrast—unless of course they are touched up beforehand, and this is risky unless the artist can have the original to work from, besides entailing expense. Very few of ours have been touched at all, though in a few cases the background has been altered.

We invite our readers to send photographs of interesting things. They should be on smooth paper, as full of half-tone and contrast as possible, and the latter point specially applies to the background. The best will be selected for illustration.

ORCHIDS IN SEASON.

SEVERAL choice flowers are sent from the collection of Capt. G. L. Holford, Westonbirt, Tetbury, by Mr. Alexander. Cattleya Trianæ Russelliana is a very fine old variety which was figured in the *Orchid Album* (v., t. 217). It has broad rosy lilac sepals and petals, and a rich amethyst-purple lip, with an orange yellow throat. Paphiopedilum × Actæus langleyense is a beautiful hybrid, most comparable with a light coloured P. × Leeanum, except that the petals, lip and staminode are light yellow. P. × Scipio (Sallieri Hyeanum × Mrs. Tautz) is a handsome thing, having the lower two-thirds of the dorsal sepal yellow, closely blotched with purple brown, and the upper part white, while the lip and petals are warm shining brown, rather darker on the lip. P. × Euryades var. Maria is a very handsome form, having the lower two-thirds of the dorsal sepal lined and blotched with the richest purple, becoming brown at the base, and the apex white, while the lip is rich brown, the petals reticulated with the same colour, and the staminodial tooth orange. P. × E. var. Joan has the dorsal

sepal covered with large round very dark purple blotches, almost to the apex, and the lower third suffused with green, while the petals and lower sepal are also more spotted. The three latter handsome forms are seedlings raised in the collection.

Several interesting flowers are sent from the collection of J. J. Neale, Esq., of Penarth, by Mr. Haddon. First may be mentioned a seven-flowered spike of Lælia acuminata, which is accompanied by a good photo-graph, showing that the plant bore eight spikes and was quite a picture. A specimen of Epidendrum polybulbon is said to be carrying about eighty flowers. The other flowers sent are Lælia autumnalis, Oncidium maculatum, Masdevallia triangularis, Zygopetalum Mackayi, and Maxil-laria variabilis var. unipunctata, forming a very interesting little group.

A flower of the distinct and striking Odontoglossum nevadense is sent from the collection of John S. Moss, Esq., Wintershill Hall, Bishops Waltham. It is now rare in collections.

A flower of a very fine hybrid Paphiopedilum is sent from the collection of Mrs. Ross, of Florence. It is said to be five years old, and to have four leaves. The record of parentage appears to have been lost, but we believe it is descended from P. villosum and P. hirsutissimum, as the flower has all the characters of P. × Germinyanum, in shape and colour. It is, however, an exceptionally fine form, and should be taken care of.

A charming form of Paphiopedilum × Leeanum is sent from the collection of J. H. Grogan, Esq., Baltinglass, Co. Wicklow (gr. Mr. Cooper). It is a seedling flowering for the first time, and has three-fourths of the dorsal sepal very regularly and clearly spotted with purple, while the petals and lip are well suffused with brown. There is also a good flower of the rare Cattleya Walkeriana, a good Lycaste Skinneri, and a spike of a rather light form of Odontoglossum × Coradinei.

LUMINOUS PLANTS.—We have not yet met with an example of luminosity among Orchids, but the following occurs in an article on Luminous Plants in a recent issue of *Indian Gardening* :—"A writer in the *Journal of Horticulture* recalls an incident of some sixty years ago when there was exhibited before the Royal Asiatic Society, the roots of a singular plant, presumably a species of Orchis, which grew amidst the jungle below the Madura Hills, in India. It was phosphorescent, and even if dried could be made to shine with the brightness of a glow-worm when the surface had a wet cloth applied for a short time. The Editor of the *Gardeners' Chronicle* found that a small piece of this root retained its power of lighting up a good while, only the light got feebler. The Brahmins, it was said, knew its peculiarity, but all the plants did not possess this luminosity at their roots. They imagined the light of it drove away demons."

CALENDAR OF OPERATIONS FOR FEBRUARY.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THE temperatures for this month should remain as advised for January, except that a rise of a few degrees, with sun heat, should be allowed, as the sun gains more power. It will also now generally be necessary to damp down twice a day, and especially so during bright, clear weather, and when a large amount of fire heat is required. A good deal of caution is necessary and should be exercised at this season when giving air, remembering that we are now entering upon a period when cold winds and bright sunshine are apt to be combined, thus rendering the possibility of injury by cold draughts extremely great; also, that Orchids, in consequence of darkness and general confinement during the winter months, are more susceptible to injury from this cause now than at any other time.

POTTING.—There are many plants that may now be potted or top dressed, as the case may demand, and this work should be pushed on where it is possible to do so. Time may then be had to do such work thoroughly well, which is a great point in favour of good cultivation, and the importance of well and carefully potting an Orchid must never be underestimated. I have yet to learn of a better potting compost for general purposes than good fibrous peat and sphagnum moss, in equal parts, with a small proportion of broken charcoal: and, except where otherwise mentioned, it is to these materials that I refer when mentioning the subject of potting. It is sometimes a difficult matter to get good fibrous material, and one is tempted to try anything which may be recommended as a substitute. Thus we have Polypodium fibre, oak leaves, and leaf soil largely advocated as substitutes, or used in conjunction with peat and sphagnum moss. The treatment, &c., of the last mentioned materials should, however, be thoroughly understood before adopting them for general use.

EAST INDIAN HOUSE.—The plant of this house should now be overhauled, giving new sphagnum moss to such species as Aërides and Saccolabiums. Those Cypripediums which have passed out of bloom may also be potted. This genus delights in a compost of rather more body than most Orchids require. The peat, for instance, need not be of the best fibrous quality, and a small portion of fibrous loam may be used, with some coarse silver sand and broken charcoal, to keep the whole porous. These materials, of course not omitting the sphagnum moss, make a good compost in which to grow the majority of Cypripediums. The exceptions to the above compost are few, but must be mentioned. The C. bellatulum and concolor group are much better potted in chalky soil, or, failing this, a mixture may be prepared of broken limestone and stiff yellow loam in equal parts. These plants, as is well known, grow naturally on limestone

rocks. The compost should be made moderately firm, pressing it down with the thumb and fingers, using about one-third drainage, over which a layer of sphagnum moss should be placed. Water when the soil becomes dry, exactly as one would do with any other exotic plant potted in ordinary soil.

NEWLY IMPORTED ORCHIDS will also require potting or basketing as they become sufficiently advanced. No delay should take place before these new arrivals are placed in the right way to establish themselves, for they have experienced enough hardships and privations already, by their long journey and drought. When we get them home this should terminate, and instead of neglecting them further, they should be attended to immediately. Firstly, trim away all dead matter—roots, leaves, bulbs, in fact everything that can reasonably be supposed to be useless—then procure fresh, moist sphagnum moss, and place a good thick layer on some boards on the stage, and on it should be placed the plants, propped up if possible in an upright position, so that the roots receive the moisture. Keep the moss damp, and also shade pretty heavily from direct sunshine for the first few days. Under this treatment resuscitation will quickly take place, and unless too far gone, they will gradually but surely recover. Bye-and-bye new roots will be seen to be pushing forth, and then such plants should be selected out, and finally potted up in the desired receptacles, and treated like an established plant.

MEXICAN LÆLIAS.—These are now over for another season, but they have well filled up a gap in the house which without them would have looked very bare. What lovely things some of the white L. anceps are! They appear to vary very much, some having small flowers with only one or two of them on a spike, while others are very large with generally four or five flowers. These are very handsome, and the flowers are of more substance than the coloured forms, and not nearly so susceptible to injury from the fogs. Mexican Lælias enjoy a good rest after flowering and should receive only enough water to keep them plump. Repot, if required, when new roots push from the last made pseudobulb.

DENDROBIUM CHRYSANTHUM is now commencing to grow rapidly, and will benefit greatly by being placed in a hanging position in the warmest house. If any of the plants require rebasketing or top-dressing, they should now be attended to, giving plenty of drainage, and a compost of two parts moss to one of peat. Water sparingly until the young roots have a firm hold, or the new growths will probably damp off. When in full growth, however, liberal supplies may be given until the growth is made and the flowers fade. The plants should then be given a rest, and water given in accordance to these conditions.

INSECT PESTS.—At this season it is wise to look over all plants, so

that early traces of thrips, red spider, and aphides may be discovered, thus preventing their increasing, as they quickly do if not held in check from the beginning. As a preventative, fumigation is advisable, but as a means of killing insects it is liable to cause injury, and therefore should not be attempted with that view. In these days there are many patent preparations for fumigation, all of which may be good if used in moderation, but I would advise growers to take particular notice of the directions, using these patent chemicals rather under the strength advised until well acquainted with their action. I would also advise growers to be careful in the use of liquid insecticides. My own opinion is that the less we use the better for the plants, and if the grower had sufficient time to sponge them with clean rain water only, so much the better would it be for the general good health of the plants. Great care should be taken with such plants as Stanhopeas, Catasetums, Houlletias, Chysis, and others with similar cup-shaped new growths, as these very quickly rot if insecticides are allowed to remain in them.

PAPHIOPEDILUM × MERCATELLII.—A new hybrid has just been described under the name of Cypripedium × memoria Mercatelli (Pucci in *Bull. R. Soc. Tosc. di Ortic.*, 1904, p. 257). It was raised in the collection of Raffaello Linaria, of Florence, from P. Stonei ♀ and P. Lowii, the cross being made in 1899. It appears to be a very distinct hybrid, of robust habit, with flowers intermediate in character, and borne in racemes. It is one of the few hybrids in which both parents have racemose flowers, and is dedicated to the late Raffaello Mercatelli.

PAPHIOPEDILUM FAIRRIEANUM AND ITS HYBRIDS.

By FRANCIS WELLESLEY and R. A. ROLFE.

(*Continued from page* 18).

CONTINUING our review of the hybrids derived from P. Fairrieanum and the group of species having tessellated leaves, we may first mention :—

P. × CONSTABLEANUM, a plant only known to us from description. It was raised by Messrs. Pitcher & Manda, of Short Hills, New Jersey, U.S.A., from P. Fairrieanum and P. Dayanum, and flowered early in 1893, when it was described, being dedicated to F. A. Constable, Esq., of New York. The characters of P. Fairrieanum are mentioned as being more than usually pronounced in this hybrid. It is said that P. Fairrieanum was the seed parent, but this point we should certainly like to see confirmed, for if correct it is very remarkable.

P. × EDWARDII flowered in the collection of Henry Graves, Esq., Orange, New Jersey, U.S.A., in September, 1892, and was described and figured in the very first issue of this work, being dedicated to Mr. Graves' eldest son. The parents were recorded as P. superbiens and P. Fairrieanum, the latter being the pollen parent. It has since been recorded that Messrs. Pitcher & Manda were the raisers. The original figure, here repeated, in its strongly ciliate petals and the comparative absence of spotting, suggests a comparison with the preceding hybrid. The dorsal sepal is described as white, lined and reticulated with green, and tinged with vinous purple near the margin: while the petals are somewhat similar, and minutely dotted

Fig. 7. PAPHIOPEDILUM × EDWARDII.

with purple near the base. The lip is shaded with brown in front. It is very rare in collections, but received an Award of Merit from the R.H.S. in July, 1893, and again a month later.

P. × AMESIÆ was derived from P. tonsum and P. Fairrieanum, and flowered in the collection of Mrs. F. L. Ames, of North Easton, Mass., U.S.A., in 1895, and was originally described under the name of Cypripedium × Mrs. F. L. Ames. It is very rare, but there is a division from Mrs. Ames' plant in the Westfield collection, which has not yet flowered.

In the succeeding group the second parent agrees with P. Fairrieanum

in having green leaves, and thus both belong to the same section of the genus. Of these only two are certainly known.

P. × ARTHURIANUM was the second of the Fairrieanum hybrids, and was raised by Messrs. James Veitch & Sons, flowering for the first time in 1874. P. insigne was the mother plant, and it is said that only a single seedling was raised. It is the most robust of all the Fairrieanum hybrids, and is so easily divided that it is now represented in numerous collections. Although most resembling P. insigne in colour, the Fairrieanum influence is apparent enough in the modified shape and markings of the flower. It was

Fig. 8. PAPHIOPEDILUM × ARTHURIANUM PULCHELLUM.

dedicated to Mr. Arthur Veitch, and is an elegant little plant. It received a F.C.C. from the R.H.S. in 1882. The variety pulchellum (here figured is the result of a second cross made by Messrs. Veitch, in which P. insigne Chantinii was the seed parent. It flowered for the first time in November, 1892, when it received an Award of Merit from the R.H.S. It proved to be superior to the original form, the spots being larger, more distinct, and more purple in colour. The flower here figured came from the collection of O. O. Wrigley, Esq., and the illustration is reproduced from an excellent

photograph taken by Mr. H. C. Hart. The Stand Hall variety is very distinct, the dorsal being broader than in the type; it was originally represented in the collection of Thomas Statter, Esq., Stand Hall, Whitefield, Manchester. Varieties are also ascribed to M. Jules Hye, H. Graves, Esq., and Messrs. Berggren, and Pitcher and Manda, but we know nothing of them.

P. × NIOBE succeeded P. × Arthurianum, but after an interval of no less than fifteen years, the plant flowering for the first time in 1889. The seed parent was P. Spicerianum, and Messrs. Veitch were again the raisers.

Fig. 9. PAPHIOPEDILUM × NIOBE, OAKWOOD SEEDLING.

It was also raised in the collection of Holbrook Gaskell, Esq., Woolton Wood, Liverpool, flowering in 1890, being at first named C. Gaskellianum. C. × miniatum, from the collection of M. Jules Hye, of Ghent, is another form of the same. It is a charming hybrid, but decidedly variable, and some forms are much superior to others. The Westonbirt variety and N. exquisitum are probably the most richly coloured forms, while the Oakwood seedling (here figured) appears to possess the broadest dorsal sepal. This was raised in the collection of Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne.

There is a Short Hill's var., raised by Messrs. Pitcher & Manda, in which P. Fairrieanum is said to have been the seed parent, but we should very much like to have this point confirmed. The variety aureum was raised by Mr. Graves, Spicerianum aureum being the seed parent. Niobe excellens received an Award of Merit at Manchester in 1901, and is said to favour Fairrieanum very much.

We now come to a group of hybrids derived from P. Fairrieanum direct, on the one hand, though the second parent was of hybrid origin.

P. × BARON SCHRÖDER was raised by Messrs. James Veitch & Sons, from

Fig. 10. PAPHIOPEDILUM × BARON SCHRÖDER.

P. × œnanthum superbum ♀ and P. Fairrieanum ♂, and flowered for the first time in November, 1896, when it received a First-class Certificate from the R.H.S. It is an exquisite little flower, and the original plant passed into the rich collection of Baron Sir H. Schröder, at the Dell, Staines. Another seedling afterwards flowered with Messrs. Veitch, in which the spots on the dorsal sepal are larger and more distinct. This is believed to be solely represented in the Westfield collection, and in that of Norman C. Cookson, Esq. It is the subject of our illustration.

Two other superb hybrids have been raised by M. Opoix, at the Jardin de Luxembourg, which, according to the records, should be near the preceding hybrid, though in reality they are completely distinct. They were obtained by crossing Madame Coffinet with Fairrieanum pollen, and Madame Coffinet is said to have been derived from Harrisianum × insigne Chantinii, and therefore should be a form of œnanthum. These two hybrids have been named Germaine Opoix and Gaston Bultel, and both have received First-class Certificates at Paris, the former in September, 1899, the latter in the following January. A coloured plate of Gaston Bultel appears in the *Revue Horticole* (1904, p. 160), and shows the flower to be closely veined with rosy purple on the dorsal sepal and petals, without any trace of the characteristic insigne spotting. Germaine Opoix, however, according to the description, has large maroon blotches on the veins of the dorsal sepal. Both came out of the same seed pod, but are so distinct as to merit separate varietal names. Both are still rare, and it must be some considerable time before they can be represented in English collections. In November, 1901, however, three plants of each were exhibited at Paris by M. Opoix, together with the seed parent, Madame Coffinet, for comparison, and, needless to say, they formed a superb group.

P. × REGINA is a seedling from P. × Leeanum, which was raised by Messrs. Veitch, and received an Award of Merit from the R.H.S. in 1896, on the occasion of its flowering for the first time. Mr. Seden informs us that only a single seedling was raised. It may be described as about intermediate between P. × Arthurianum and P. × Niobe, and it may be mentioned as a curious coincidence that a hybrid between the two latter would show an exactly identical analysis, namely, ½ Fairrieanum and ¼ each insigne and Spicerianum. There seems no immediate probability of the cross being repeated, for want of Fairrieanum pollen, and the alternative one is unfortunately impracticable. It is now almost certain that the Fairrieanum hybrids cannot be crossed together, for endless attempts have been made in different collections, but all to no purpose.

P. × AASENII is a cross between P. × Swanianum and P. Fairrieanum which is only known to us from description, but it should favour both P. × vexillarium and P. × Edwardii. It flowered in the collection of Oakes Ames, Esq., North Easton, Mass, U.S.A.

P. × PRINCESS is another hybrid raised by M. Opoix, from Monsieur Coffinet (superciliare × Dayanum) crossed with Fairrieanum pollen. It is a most refined flower, and recalls both Edwardii and vexillarium, in fact an analysis of parentage shows ½ Fairrieanum, ¼ Dayanum, and ⅛ each both barbatum and superbiens. It is believed that, apart from the Jardin de Luxembourg, Princess is to be found only in the Westfield collection and that of E. Rogerson, Esq., at West Didsbury.

Two other Fairrieanum hybrids raised by M. Opoix have, we believe, not yet been recorded. P. Argus × Fairrieanum flowered at the Luxembourg last October, but not in such a condition as to enable one to judge of its merits. The other is a seedling from Madame Octave Opoix, and has not yet flowered. It should be a remarkable thing, for the seed parent was derived from P. × superciliare and P. niveum.

P. × BALMEDIEANUM is a quite doubtful plant, raised in the collection of the late W. H. Lumsden, Esq., Balmedie, Aberdeenshire, and exhibited at a meeting of the R.H.S. in August, 1897, as a hybrid between P. Stonei and P. Fairrieanum. The Orchid Committee, however, doubted the record, and, owing to some transverse mottling in the leaves, it has been suggested that the second parent was P. × Harrisianum. It is very doubtful if it should be included in the present list.

Two other very doubtful Fairrieanum hybrids have been recorded. In April, 1898, a very pretty hybrid was exhibited at a meeting of the R.H.S. by A. Warburton, Esq., Vine House, Haslingden, which was said to have been raised from P. bellatulum and P. Fairrieanum, but we have not seen it, and fear that the record is more than doubtful. A similar remark applies to the record of a hybrid from P. × Niobe and P. Fairrieanum. Nothing further has been heard of the plant, and we believe that a hybrid three-fourths derived from P. Fairrieanum is so far non-existent. It would be interesting to know more of the history of these doubtful plants, and what they really are.

(To be continued).

LEPTOTES UNICOLOR.

THIS interesting and pretty little species has at last appeared in cultivation, a plant which has just flowered in the Royal Botanic Garden Glasnevin, proving identical with the original drawing. Mr. Moore states that it was purchased in Belgium as Leptotes sp. The plant was described by Rodrigues in 1877 (*Gen. et Sp. Orch. nov.*, i., p. 74), its habitat being given as trees on the banks of the Rivers Dourado, das Antas, and Sapucahy, and near the city of Alfenas, in the province of Minas Geraes. It has also been found near Caldas, by Regnell. It is a graceful little plant, having, according to Rodrigues' drawing, a pendulous habit, and the leaves are very fleshy, subterete, and about two inches long. The flowers are mostly borne in twos, and are of a nearly uniform pale lilac colour, while the segments are under an inch long. It is very distinct from the well-known L. bicolor, and its appearance in cultivation is interesting.

R. A. ROLFE.

ODONTOGLOSSUMS AT ARDDARROCH.

AN interesting note on the Odontoglossums in the collection of R. Brooman-White, Esq., of Arddarroch, N.B., by Mr. De Barri Crawshay, appears in the *Gardeners' Chronicle* for January 14th (p. 19). Mr. Crawshay remarks that Mr. Brooman-White's No. 1 house contains 300 plants that have been growing there for periods of various duration, extending to twenty and a half years, the oldest one having been purchased at Sir W. Marriott's sale, May 20, 1884. They are plants in pots ranging from 48's (5 inches) to many of 12 inches in diameter. The specimens are grand indeed, and have immense bulbs, some as large as 6 inches high by 2½ across the widest part, and 1⅜ thick. There are dozens which carry four years' leaves, most of them having two leaves to a bulb, and many have three: and here and there one finds a plant with five years' leaves—a rare occurrence in most collections, an unknown one in a great many. These leaves are not puny and soft things of pale green, but are magnificent straps of foliage, whose depth of colour leaves nothing to be desired. The "tipping" of leaves here is absent. One Odontoglossum × Andersonianum has three spikes upon one giant bulb, one spike having seven branches, each spike being thicker than an ordinary lead-pencil. Being at a dull time of year there were few in bloom, but it is said that sixteen blooms on a spike is a common occurrence, and in one case there was nineteen, without a branch—blooms, too, of grand substance and variety, for no poor variety is kept in No. 1.

The first idea that will occur to many people is possibly, "This is the result of some manuring." It is the result of absolutely no manuring of any sort whatever, either liquid or solid; such treatment is neither allowed nor needed at Arddarroch. The compost that Mr. Perfect, Mr. White's grower, uses is peat, sphagnum, and oak leaves, in equal thirds, chopped finely and mixed. The Oak leaves are collected when they fall, and left heaped on the ground, being used as and when required, but not in a state of rottenness, when all nourishment has left them; the sounder the leaf the more there is for the plant to feed upon. Bracken roots are used for drainage, and then the plant is settled into the compost, the surface being of sphagnum—no need to say live sphagnum, for it does not die easily at Arddarroch.

Plenty of air is given at all or any time, for it is never so cold that the plants may not have some with beneficial results. Watering is largely done by Nature here, for the position of the house is ideal. It is placed north and south, a span-roof, whose general dimensions are 40 by 10 by 9 feet, with two side stages, under which are two stages of Loch Long finest gravel, the path being covered by a larger size of the same; it contains

three rows of 4-in. pipes on each side, has "Hit and Miss" side ventilators, also top ditto; spray pipes for use in hot weather are also in it and on the roof.

The position, partly in the ground, is one of its great points. On one side is a bank 7 feet high, the south end also being banked by the continuation of the slope of the hill. In the house is a 14-feet well of beautiful mountain water, softer than rain water, and from the natural slope of the hill the water percolates under the house, thus continually maintaining a most advantageous moisture. Sphagnum grows all over the mountains around. Loch Long is 100 feet below, and the climate is perfect, and above all Mr. Brooman-White and his grower are always eager to take advantage of and utilize Nature's beneficent endowments.

There are six houses more (and another building) full to repletion of unbloomed plants selected from all the best importations. This 25,000 plants should give some good results in blooming, and add largely to the number of excellent forms already in the collection.

LYCASTE XYTRIOPHORA AND L. DOWIANA.

THERE is a species of Lycaste in several collections which looks like a dwarf, very small-flowered form of L. macrophylla, and which is believed to be Lycaste xytriophora Lind. and Rchb. f. The species was figured and described in 1872 (*Saund. Refug. Bot.*, ii. t. 131), when Reichenbach remarked:—"This species came, in 1867, from Director Linden, who obtained it from Ecuador or Peru, I believe from the neighbourhood of rich Loxa. I possess a dried flower from Mr. Wallis, signed 'Ecuador.'" Mr. Wilson Saunders, however, speaking of the plant figured, remarked:—"I received plants of it from Mons. Carmiol, collected in Costa Rica, and Mons. J. Linden also supplied me with a plant, but the locality from whence it was procured is unknown to me." The localities are far apart, but whether the species is a widely diffused one, like the allied L. macrophylla, is a point which has never been cleared up. Day figured it as long previously as March, 1868 (*Orch. Draw.*, xiii., t. 71), remarking:—"Bought at Stevens', May, 1867, at a sale of Mr. Linden's plants, said to have been received from Ecuador or Peru." The two figures agree sufficiently, and there is a third figured by Mr. Day in May, 1877 (*l.c.*, xxi., t. 67), which, as he supposed, seems to represent a small pale-flowered form of the same. It was "bought at a sale of M. Linden's plants, imported from Ecuador and Peru, Nov. 8. 1866." There is a third drawing which may represent a form of the same species (*l.c.*, liii., t. 87). This was drawn at Kew in July, 1887, from a plant bearing the name of Lycaste Dowiana, but it is doubtful if it represents Reichenbach's plant of that name, which I only know from

description. This latter is a native of Costa Rica, and was described in 1874 (*Gard. Chron.*, 1874, ii., p. 194). It was originally collected by Warscewicz, then by Zahn, and afterwards by Endres. It was said to be allied to L. macrophylla, but to be immediately distinguished by having the bracts shorter than the ovary, and the flower smaller in all its parts. The colours were described as, sepals olive green outside, brown inside, petals and lip yellowish white, with some brown spots on the latter. A plant has just flowered with Messrs. Hugh Low & Co., Bush Hill Park, which agrees with L. Dowiana in having a bract shorter than the ovary, and in the colour, with the exception that the front lobe of the lip and apex of the side lobes are light claret-purple, with some paler purple on the crest, and I am inclined to think it is a form of L. Dowiana, for similar differences of colour are seen in the allied L. macrophylla. It was obtained from the collection of the late Dr. Smee, of Carshalton, under the name of L. Smeeana, which it is not, but the circumstance probably points to a Central American habitat. It bears a close resemblance to the preceding in habit, size of flower and colour, but differs in having a very short bract. How far the character is constant perhaps remains to be proved. The Central American habitat of L. xytriophora is to a certain extent confirmed by a plant which flowered in the collection of M. J. Garden, Bois Colombes, near Paris, and which was purchased as L. Skinneri alba, and thus may have been imported with it.

MASDEVALLIA CUPULARIS.

THIS interesting, though rare Masdevallia, which has not hitherto been described in the *Orchid Review*, is now in flower in the Hon. Walter Rothschild's collection at Tring Park. It is well figured and described in Miss Woolward's *Monograph of Masdevallia*, from which the following abbreviated description is taken :

"M. cupularis was originally discovered in 1857 by Wendland, at Desengaño, in Costa Rica, and was again found thirty years later by Hübsh, in the same locality. The leaves are two inches long, oval, coriaceous, peduncled, with pedicel a little longer than the leaves, erect and slender, pale green. Sepals, cohering equally for about half an inch, forming a cup-like tube, reddish yellow, closely spotted with crimson, terminating in slender flattened tails, rather more than half inch long. Petals quarter inch long, dull yellow spotted with red.

"It grows well if potted in a mixture of peat and chopped sphagnum moss, with the addition of a little loam and sand, and a slightly warmer temperature than is usually advised for Masdevallia."

R. WARRIOR.

Tring Park, Gardens.

ODONTOGLOSSUM CRISPUM VAR. WILLIAM STEVENS.

WE are now able to give a figure of the handsome and very interesting seedling Odontoglossum crispum var. William Stevens, whose history was given at page 10. The photograph of the whole plant was hardly suitable for reproduction, but Mr. Stevens afterwards sent us one of a single flower which is here reproduced life size. Mr. Stevens adds that the deep rose-coloured flower used as the seed parent was the one known as O. crispum Queen Empress—which received a First-class Certificate from the R.H.S. in March, 1901, and was described at pp. 118, 127 of our ninth volume.

Fig. 11. ODONTOGLOSSUM CRISPUM VAR. WILLIAM STEVENS.

The spotted crispum used as the pollen parent is not known by name. It is the first to bloom out of a batch of seedlings, which may contain other interesting developments. It is certainly a very handsome thing, and might almost be matched among spotted crispums. The future may witness some striking developments in the raising of these handsome forms by hand. Mr. Stevens remarks:—"We have about sixty seedlings showing for flower from various crosses, which will be interesting in the spring," and we may add that we hope to see some of them.

BRASSOCATTLEYA × SANDERI.

THE accompanying figure represents the distinct and beautiful Brassocattleya × Sanderi, whose history was briefly given last month (page 23). It is reproduced natural size from an excellent photograph taken by Mr. H. C. Hart. It is a very difficult flower to photograph, being of one nearly uniform tint throughout, but the details of shading are particularly well shown in the original. In shape and substance the flower strongly recalls the pollen parent, Brassavola glauca, though the shape is somewhat modified, as well as the colour. The sepals and petals are of a pale lavender

Fig. 12. BRASSOCATTLEYA × SANDERI.

tint, and the lip is very pale primrose in the centre, with a tinge of lavender towards the margin. It is a delicately coloured and charming hybrid, and owing to the substance of the flower, remains fresh for a considerable time. As previously pointed out, the flower was sent to us from the collection of Sir Frederick Wigan, Bart., Clare Lawn, East Sheen. We have now six hybrids partly derived from Brassavola glauca, four crosses with Cattleya and two with Lælia having now flowered and been recorded. We believe that other seedlings from it are in existence. The hybrids from this species promise to have as strongly marked characters of their own as have those of the allied B. Digbyana.

SOCIETIES.

ROYAL HORTICULTURAL.

THERE was a very good display of Orchids at the Royal Horticultural Hall, Vincent Square, Westminster, at the opening meeting of the year, held on January 3rd, which was further marked by the presence of a most remarkable group from the collection of Captain Holford, which gained both a Gold Medal and the Lindley Medal for excellence of culture. Two other medals were also given, together with four Awards of Merit, two Botanical Certificates, and one Cultural Commendation.

Captain G. L. Holford, C.I.E., Westonbirt, Tetbury (gr. Mr. Alexander), staged a magnificent group, which extended throughout the length of the Hall on one side of the central staging. It consisted largely of splendidly-grown Cypripedes, together with some good examples of Oncidium tigrinum, Odontoglossum crispum, Lælia anceps, L. a. Sanderiana, and L. a. Amesiana, in the centre, and at intervals fine specimens of L. autumnalis, the Westonbirt variety bearing seven spikes and an aggregate of twenty-three large and very richly-coloured flowers. In the front row were several good examples of Sophronitis grandiflora. The Cypripedes formed a remarkable series, and included some good forms of C. insigne, a number of C. × Leeanum, among which may be mentioned two C. × L. giganteum, bearing twenty-four and sixteen flowers, C. × L. Westonbirt var., with fourteen, C. × L. Holford's var., a fine dark form with twenty, and other fine specimens, good forms of C. × aureum and C. × Sallieri, C. × nitens superbum, with fifteen blooms, C. × J. Howes with eleven fine blooms, C. × Tityus, C. × Fascinator, C. × Charlesianum, C. × Scipio (Sallieri Hyeanum × Mrs. Tautz), C. × Actæus langleyense, some good forms of C. × Hera, &c. The plants generally were in the most robust health, and bore in the aggregate about five hundred flowers. The Society's Gold Medal was awarded, together with the Lindley Medal, in recognition of such excellent culture. An Award of Merit was given to C. × Alcibiades (× Leeanum giganteum × Mons. de Curte), a large and handsome form, having the dorsal white, and richly blotched with purple.

F. Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent Lælia anceps Amesiana Wellesley's var., Cypripedium insigne Hopkinsianum, and two other plants, each of which gained an Award of Merit. C. × westfieldiense (Leeanum superbum × Pollettianum) is a handsome flower, having the dorsal sepal white, with a green base, and numerous rosy lines and irregular spots, and the petals and lip yellowish suffused with dark brown. C. × memoria Jerninghamiæ is a very handsome hybrid of unrecorded parentage, approaching a dark form of C. × aureum, but with more undulate segments and thicker substance. The dorsal sepal is white, with

some purple at the base, from which extend some green nerves on either side of the purple median band; and the petals and lip are honey-yellow tinged with brown, and glossy in texture.

G. F. Moore, Esq., Bourton-on-the-Water, Glos. (gr. Mr. Page), sent Cypripedium × Leeanum Fowlerianum, C. × Amy Moore (Sallieri aureum × insigne maximum) a large yellowish flower, spotted with brown on the dorsal sepal, and Dendrobium Phalænopsis Chardwar var., a fine richly-coloured form of the species, which latter received an Award of Merit.

The Right Hon. Lord Rothschild, Tring Park (gr. Mr. Dye), sent a magnificent inflorescence of Phalænopsis Aphrodite, bearing eight side branches and an aggregate of nearly fifty flowers, a Cultural Commendation being awarded.

F. W. Moore, Esq., Royal Botanic Garden, Glasnevin, sent two interesting rarities, namely Aërides Ortgiesianum and Dendrobium triflorum, a Botanical Certificate being awarded in each case. The latter is a charming little plant nearly allied to D. cymbidioides, with which it is sometimes confused. The history of the two species was given at page 69 of our last volume.

Jeremiah Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), sent a strong, branched spike of Calanthe × Wm. Murray, also cut examples of Lælia anceps alba and L. a. Mrs. Jeremiah Colman, the latter a fine richly coloured flower.

Messrs. Charlesworth & Co., Heaton, Bradford, staged an interesting and very beautiful group, which gained a Silver Flora Medal. It contained about thirty plants of the beautiful Lælio-cattleya × Charlesworthii (L. cinnabarina × C. Dowiana), some of them bearing several spikes of coppery orange flowers, with the front lobe of the lip reddish purple; L.-c. × Andromeda having primrose yellow flowers with a claret-purple front lobe to the lip, the beautiful Odontoglossum × Hallio-crispum, some good O. crispum, some well-flowered plants of the beautiful Trichopilia suavis, and other good things.

Messrs. James Cypher & Sons, Cheltenham, also received a Silver Flora Medal for a fine group, consisting largely of choice Cypripedes in excellent condition, and including C. insigne Harefield Hall var., C. i. Sanderæ, C. i. Sanderianum, C. i. Osyana, having the dorsal sepal tinged and reticulated with pale brown instead of being spotted, some good C. × Leeanum, C. × aureum, C. × a. Lambianum, having a yellowish flower tinged with emerald green, C. × Swinburnei magnificum, the richly coloured C. × Tityus, C. × Phœbe, C. × Madame Jules Hye, &c. There were also some good Trichopilia suavis, Masdevallia Schrœderiana, and forms of Lælia anceps.

Messrs. Hugh Low & Co., Bush Hill Park, sent Cattleya Trianæ

Alpha, Cypripedium × nitens Ball's var., C. × Mrs. Tautz, C. × Prewettii, C. × Madame Geo. Truffaut, and others.

Messrs. Sander & Sons, St. Albans, staged a small group of choice things, including Cypripedium × aureum, C. × a. virginale, a good C. Rothschildianum, C. × Lucienianum, C. × Helen II., C. × exquisitum (exul × insigne Chantinii), and a form of C. insigne, having the dorsal sepal somewhat suffused with brown, and some purple spotting running into the white part of the dorsal sepal.

AT the meeting held on January 24th there was a very fine display of Orchids, notwithstanding the cold weather, and the awards consisted of one gold and four other medals, two First-class Certificates, seven Awards of Merit, and one Cultural Commendation.

G. F. Moore, Esq., Bourton-on-the-Water (gr. Mr. Page), staged a remarkably fine group, to which a Gold Medal was awarded. It contained some fine Calanthes, Sophronitis grandiflora, white forms of Lælia anceps, bearing an aggregate of forty spikes, and many choice and well grown Cypripedes, including C. × aureum virginale, C. × Fascinator, C. × Mrs. Wm. Mostyn Chardwar var., C. × Evenor, some good forms of C. insigne and C. Leeanum, C. × nitens Ball's var., C. × Fascinator, C. × Amy Moore, &c. An Award of Merit was given to C. × G. F. Moore (Mrs. William Mostyn Chardwar var. × Sallieri aureum), a very beautiful hybrid, having a large cream-white dorsal sepal, with a few purplish markings, and the surface of the whole flower very glossy.

Norman C. Cookson, Esq., Wylam-on-Tyne (gr. Mr. Chapman), sent Calanthe × Phœbe (Veitchii × Turneri) with uniformly light-rose flowers. C. × Magpie (Wm. Murray × seedling), a good dark rose form mottled with white, and three other fine things which secured awards. A First-class Certificate was given to Calanthe × Chapmanii (burfordiense × Oakwood Ruby), a large and finely shaped flower of the deepest crimson, with a paler eye. Odontoglossum × mirificum (sceptrum × crispum) received an Award of Merit, the flower being cream white profusely blotched with chestnut-brown, and a similar award went to Cypripedium × San-Actæus (insigne Sanderæ × Actæus). The latter had the upper part of the sepal pure white, and the rest of the flower yellowish green.

F. Menteth Ogilvie, Esq., The Shrubbery, Oxford (gr. Mr. Balmforth), sent a good specimen of Lælia anceps Sanderiana bearing several spikes, one of which had six flowers, some good forms of Cypripedium × aureum, C. × Maudiæ magnificum, the charming little C. × Venus, and two others which gained an Award of Merit. These were C. × aureum The Shrubbery var., a fine greenish white flower, tinged with purple, and the greater part of the dorsal sepal pure white, and C. × Lawrebel, The Shrubbery var., a deep rich

purple form, passing to rose inside the white margin of the dorsal sepal.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Gilbert), sent a charming little group, containing Cypripedium × Mrs. Francis Wellesley (Sanderianum × Gowerianum), the beautiful C. × Mrs. Wm. Mostyn, C. × Cassandra Westfield var., C. × Dicksonianum (villosum × memoria Moensii), a fine thing having a rose-purple dorsal sepal tipped with white, and the petals and lip yellowish, the latter suffused with brown in front, the very handsome C. × Hera Westfield var., Brassolælia × Clio (L. cinnabarina × B. glauca), a pretty buff-yellow hybrid, and Lælio-cattleya × Charlesworthii magnifica, a very fine form having reddish orange sepals and petals, and the front lobe of the lip claret-red, with some golden veining in the throat, the latter receiving an Award of Merit.

Captain G. L. Holford, Westonbirt, Tetbury (gr. Mr. Alexander), sent a very fine plant of Odontoglossum × Adrianæ Countess of Morley, having many flower spikes, to which a Cultural Commendation was given.

J. Forster Alcock Esq., Northchurch, Hants (gr. Mr. Foster), sent Cypripedium insigne Northchurch var.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent Maxillaria Lindeniæ, a beautiful white species, with purple lines on the petals, and some yellow and brown on the lip.

J. Gurney Fowler, Esq., South Woodford (gr. Mr. Davis), showed Cypripedium × Mrs. E. V. Low (insigne × niveum), a charming light form, and the richly-coloured C. × Mrs. Wm. Mostyn Chardwar var.

The Right Hon. Lord Rothschild, Tring Park (gr. Mr. Dye), sent a photograph of a magnificent plant of Phalænopsis Schilleriana, natural size. It was photographed on January 9th last, and shows a panicle of seven primary branches and eleven secondary, with eighty-eight expanded flowers and eleven buds. The two longest leaves were 15½ inches long by 5½ broad. The plant was purchased at the Burton Constable Sale, in 1881, and has flowered freely in the winter ever since.

Messrs. Sander & Sons, St. Albans, sent a choice group, to which a Silver Flora Medal was awarded. It contained two fine specimens of Dendrobium nobile nobilius, D. × Schneiderianum, the distinct and pretty Epilælia × Fletcheriana (E. atropurpureum × Lælia cinnabarina), bearing few-flowered spikes of orange-coloured flowers, having a white lip tinted with rose, and several fine Cypripediums, among the more noteworthy being a pan of Cypripedium Gratrixianum, a singular novelty recently discovered by Micholitz, the fine C. × Rolfei stupendum, C. × nitens splendidum, C. × Lady Wimborne, C. × Phœbe exquisitum, and C. × Helen II. A First-class Certificate was given to C. × Leeanum J. Gurney Fowler, a remarkably fine form having a white dorsal sepal with a dark purple median band and a small green area at the base.

Messrs. Charlesworth & Co., Heaton, Bradford, also received a Silver Flora Medal for a fine group consisting largely of hybrids, including a fine lot of Lælio-cattleya × Charlesworthii, the pale yellow L.-c. × Andromeda, some handsome hybrids of Brassavola Digbyana, and some good Odontoglossums. An Award of Merit was given to Cattleya × Octave Doin (Mendelii × Dowiana aurea), a beautiful hybrid with blush white sepals and petals, and a ruby-crimson lip veined with yellow in the throat.

Messrs. James Cypher & Son, Cheltenham, obtained a Silver Flora Medal for a handsome group, containing a very fine Odontoglossum × crispo-Harryanum, some good Lycaste Skinneri alba, Lælia anceps grandiflora, some very good L. a. Sanderiana, bearing five flowers on a spike in several cases, a fine Cypripedium × Morganiæ bearing three spikes, C. × Lilian Greenwood, some good C. × Sallieri, C. × Lathamianum with twelve flowers, C. × Charlesianum giganteum, C. × Leeanum giganteum with 20 flowers, C. × Madame Jules Hye, and C. × nitens Arle Court var.

M. Ch. Vuylsteke, Loochristi, Ghent, staged a choice group of hybrid Odontoglossums, to which a Silver Banksian Medal was given. It included two fine O. × Wilckeanum, O. × loochristiense, two good O. × Vuylstekei, one being remarkably dark in colour, O. × crispo-Harryanum, and a pretty hybrid between the latter and O. crispum.

Messrs. Duchesne Lanthoine & Co., Watermael, Belgium, showed a good yellow form of Cypripedium insigne.

Messrs. Hugh Low & Co., Bush Hill Park, sent a small group, containing a good plant of Lycaste Skinneri alba, Cypripedium × aureum virginale C. × Minos Young's var., bearing several flowers, and others.

Messrs. James Veitch & Sons, Chelsea, sent a small group of choice things, including the handsome Cypripedium × Baron Schröder, C. × Creon, C. × Actæus albida, C. insigne Sanderæ Veitch's var., a good seedling form, C. × Leucas (Niobe × insigne Sanderæ), a light-coloured hybrid, the handsome C. × Æson giganteum, and Selenipedium × pallens (leucorrhodum × Boissierianum), a delicate white flower tinted with pink.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

THE final meeting of the year was held at the Coal Exchange, Manchester, on December 15th, and produced a fine display of Orchids, including one Gold Medal Exhibit, besides which three other medals, four First-class Certificates, and three Awards of Merit were given.

W. Duckworth, Esq., Flixton (gr. Mr. Tindall), staged three magnificent specimen Cypripediums, namely, C. insigne Sanderæ, bearing twelve flowers, C. i. Harefield Hall var., in a pan about fifteen inches across, with thirteen flowers, and C. × Leeanum giganteum with twenty-one. The specimens were pictures of health and vigour, and the Society's Gold Medal

was awarded in recognition of their beauty and excellence of cultivation.

W. Laverton, Esq., Victoria Park, Manchester, was awarded a Bronze Medal for an interesting little group.

Mrs. Ardern, Stockport (gr. Mr. Morris), received a First-class Certificate for Cypripedium × Leeanum corunna triumphans.

Mrs. S. Gratrix, Whalley Range (gr. Mr. G. Cypher), received a First-class Certificate for Cypripedium callosum Sanderæ Jules Hye's var.

E. Ashworth, Esq., Wilmslow (gr. Mr. Holbrook), received a First-class Certificate for Lælio-cattleya × Donnii.

A. Warburton, Esq., Haslingden (gr. Mr. Bailey), received a First-class Certificate for Cypripedium × Arthurianum pulchellum.

T. Statter, Esq., Whitefield (gr. Mr. Johnson), received an Award of Merit for Cypripedium × mirabile (barbatum × callosum).

Messrs. John Cowan & Co., Gateacre, staged a fine group of winter-flowering Orchids, to which a Silver-gilt Medal was awarded.

Messrs. Sander & Sons, St. Albans, also received a Bronze Medal for a small group of choice things.

THE first meeting in the New Year was held on January 5th, when a good display was again seen, though the awards were less numerous.

S. Gratrix, Esq., Whalley Range (gr. Mr. G. Cypher), received Awards of Merit for two fine Cypripediums, called C. × The Czar (insigne Sanderæ × Sallieri Hyeanum), and C. × General Stoessel (of unknown parentage.)

W. Thompson, Esq., Stone (gr. Mr. Stevens), sent a noble specimen of Odontoglossum × mulus, bearing eight fine spikes of flowers, an excellent example of good culture to which a Cultural Certificate was given.

G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Schill), sent a collection of Cypripedes, among which C. × aureum var. Surprise, C. × Euryades splendens and C. × E. magnificum were noteworthy.

Messrs. J. Cypher & Sons, Cheltenham, staged a very fine group, consisting for the most part of well-grown Cypripediums, species and hybrids. It included a good plant of C. insigne Luciani, and a well-flowered clump of Trichopilia suavis was also noteworthy.

Messrs. A. J. Keeling & Sons, Bradford, were awarded a Bronze Medal for a good group of Cypripediums.

Messrs. John Cowan & Co., Gateacre, staged a few good Odontoglossums, including O. × loochristiense, O. × Wilckeanum, and O. × crispo-Harryanum, a Vote of Thanks being accorded to the group.

Mr. D. McLeod, Chorlton-cum-Hardy, also sent a small group, including a fine Cypripedium × triumphans, C. × Euryades var., &c., a Vote of Thanks being given.

Messrs. Hugh Low & Co., Enfield, sent the fine Cypripedium × Minos Young's var., C. × macrochilum, and others.

Messrs. Sander & Sons, St. Albans, sent a few good Cypripediums, &c.

NOTICES OF BOOKS.

A Gardener's Year. By H. Rider Haggard. With Plan and twenty-five illustrations. Longmans Green and Co., 8vo. pp. 404.

THIS interesting work is a sort of gardener's diary for the year 1903, in which the author records the events and incidents of a year's work in his own garden, where a little of nearly everything is grown, "from Orchids down to Cabbages, with equal interest, if not always with equal success." And he has certainly produced a very entertaining volume. It may be described as a work in twelve chapters, corresponding with the twelve months of the year, with an introductory chapter, entitled "The Garden Past and Present," and an Index. The author has three Orchid houses, and to these we must limit our remarks.

Under the heading January we find some interesting remarks about Orchid-culture, which is described as "the most delightful of all gardening pursuits," and not by any means a form of horticulture that only rich men can face, as is popularly supposed. The author, however, remarks that unless the would-be grower is prepared to love and to learn to understand his Orchids he had far better leave them alone. "In my own humble case," he adds, "I taught myself how to grow the plants, and afterwards taught my gardeners." And he has met with a very fair share of success, as is evident from the records of succeeding months, in which matters of nearly all kinds are discussed. Incidentally, it may be added, the author describes his visits to the Temple Show, to Kew, and to the Sale Rooms, and his impressions there in a very interesting fashion. Among the illustrations we find good examples of Masdevallia tovarensis, Cypripedium insigne, Cœlogne cristata, Cattleya Trianæ, and Cymbidium Tracyanum, grown in the collection.

The author, among other things, tried his hand at Orchid hybridising, but without any very large measure of success. He soon learnt how to cross-fertilise Orchids—a delicate and fascinating operation, and in due time obtained quantities of seed of every kind, but tbe subsequent operations are described as a very troublesome business. The sowing of the dust-like seed was practised in all ways, and at length tiny green specks appeared. "But now begin the grower's troubles—that is, if I may judge from my own case and that of a neighbour. Not only must these delicate seedlings be protected from all ordinary pests, such as slugs, wood-lice, and cock-roaches, but also from the attacks of a little black fly not so big as a flea, which devours them ravenously. Further they must never be allowed to get too dry, lest they should shrivel up or damp off. Thus in the end, I came to the conclusion that, with the labour at my command, the game was not worth the candle."

We cannot follow the author through the numerous questions that are discussed, some of which are difficult enough in all conscience. For example we are asked, "Why did Cattleya citrina ever begin to grow head downwards?" And the author wonders whether certain choice varieties will ever be sold at a moderate price "such as gardeners like myself can afford," adding—"I doubt it, especially as I have been told, upon what seems to be good authority, that one grower is 'cornering' insigne Sanderianum and insigne Sanderæ, and has already spent several thousand pounds in buying up such plants as come into the market." We are a little incredulous. At Kew the author found Chloræa crispa and Cypripedium Sanderianum in flower, both new to him, but one is a little surprised to find the remark that the latter, "from its size, habit, and colouring is, I should judge, a cross between C. Rothschildianum and C. caudatum."

The author thinks that Orchid growing will increase in popularity. "Orchids," he remarks, "are without doubt the great greenhouse plants of the future, as, considering their infinite variety, surpassing beauty, lasting qualities, and the ease with which most of them can be cultivated, given a little intelligence and a natural affection for them, they certainly deserve to be." He also thinks that before this century is out the greenhouses of future growers will be almost entirely stocked with home-raised seedlings, which will then be bought for fewer shillings than they now cost guineas. "For Orchid growers yet unborn there is a glorious future!" Here our author waxes prophetic. "In those halcyon days they will not give two hundred and fifty guineas or over for an Odontoglossum crispum, merely because the flower is a little more heavily blotched than is common. . . . . Or, if they still desire such markings, doubtless they will be able to produce them by sowing the seeds of plants with that peculiarity, or, more probably, by crossing the common crispums with other spotted and blotched Odontoglossums of slightly different race."

The author paid a visit to the Sale Rooms in June, and his description of what he saw there is both interesting and instructive, but our readers must be left to peruse these, and many other interesting details in the orgiinal. There is a large amount of information scattered through the volume, and, fortunately, there is a good Index, by which many of the details can be quickly found, though the way some of them are enumerated under the headings of the particular month under which they happen to be discussed is a little bewildering. The author is certainly an enthusiastic gardener and Orchidist, and has produced a very entertaining volume. The account of his struggles with Disa grandiflora is almost pathetic, and he seems to have given it up as hopeless, adding—"this Orchid, like Vanda cœrulea, has completely beaten me."

The Orchids figured we have already mentioned, and one of the blocks we are able to reproduce here, through the kindness of the publishers, Messrs. Longmans Green and Co. It represents Masdevallia tovarensis, "the only white-flowered variety of that genus," of which the author further remarks:—"This came from Messrs. Veitch a few years ago, when it bore a single spike of bloom. Two seasons later I broke the plant up, and re-potted the growths in a basket; I think that was about twenty months ago. Now, for it is a winter bloomer, it has thrown up no less than fourteen stems, most of them carrying two of the dazzling white-tailed

Fig. 13. MASDEVALLIA TOVARENSIS.

flowers, and at the same time is pushing vigorous growths. A lovely sight, truly, and, had I the time, one at which I could gaze for hours."

"One and All" Gardening 1905. Edited by Edward Owen Greening, F.R.H.S. London: The Agricultural and Horticultural Association, Ltd.

THE tenth issue of this popular little annual has just reached us, and is as interesting as ever to lovers of gardens. It contains nearly 200 pages, and is profusely illustrated, and sold at the low price of twopence. The articles, nearly forty in number, are remarkably varied in character, but we must confine ourselves to those which come within our special province, which are three in number, namely Popular Orchids, Cypripedium barbatum, and Habenaria carnea, by Mr. D. S. Fish of the Royal Botanic Gardens,

Edinburgh, the text being illustrated by figures of Aërides Vandarum, and fine specimens of the Cypripedium and Habenaria in question, from photographs, and one of Mrs. Hensley's Flower Pictures, showing a Cypripede and Dendrobe, which, however, in the absence of colour, compares unfavourably with the photographs. The Aërides is a very remarkable Orchid, but we should scarcely call it "popular," and we find no mention of it in the text, beyond the name underneath the block. The Cypripedium and Habenaria, however, are accompanied by suitable cultural details, that of the latter being here summarised.

Habenaria carnea will now be at rest, but with the return of warm spring weather the plants should be shaken out of the old compost, and repotted in a mixture of loam and peat, kept open by some broken sand-

Fig. 14. HABENARIA CARNEA.

stone or other material. Somewhat small pots seem to suit the plant best; 3½ inch size being large enough for healthy roots. The plants are very attractive even when not in flower, the leaves being mottled all over with light green spots, and when the racemes of pink or white flowers appear they are very handsome. During the flowering period the plants should be kept in a somewhat dry portion of the Warm house, in order to preserve the blooms as long as possible. Soon after flowering the leaves show signs of dying off, when the amount of water should be reduced, and during the winter the pots containing the dormant tubers are best stood on a shelf in the stove and kept perfectly dry. The result of such treatment is seen in the accompanying figure, for the use of which, together with that on the following page, we are indebted to the publishers of this interesting and useful work.

AERIDES VANDARUM.

AERIDES Vandarum, as Mr. Fish's photograph shows, is a very distinct and remarkable species, somewhat resembling Vanda Hookeriana in habit, but very distinct in floral structure. It was described by Reichenbach in 1867 (*Gard. Chron.*, 1867, p. 997), but has been known since 1857, when it flowered in the collection of Mr. Parker, of Hornsey, and was figured in the *Botanical Magazine* (t. 4982), under the name of Aërides cylindricum Lindl., which afterwards proved to be erroneous. The determination was

Fig. 15. AERIDES VANDARUM.

credited to Dr. Lindley, but the mistake arose in a curious way. Sir W. Hooker sent to Lindley three terete-leaved plants, which he evidently thought belonged to a single species, for he sent them under one number (210). These were (*a*) a flowering specimen collected in the Nilghiri Hills by G. Thompson, (*b*) a fruiting specimen collected in Khasia by J. D. Hooker and T. Thomson, and (*c*) a specimen without flowers or fruit collected in Sikkim by J. D. Hooker. Lindley evidently supplied the name

A. cylindricum, but the three plants afterwards proved to be quite distinct. The Nilghiri plant is A. cylindricum, Lindl., and was not known in cultivation till 1891, when it flowered with Mr. J. O'Brien. It is exclusively South Indian. The Khasia plant is A. Vandarum, Rchb. f., and has also been found in Munnipore. The Sikkim plant is A. longicornu, Hook. f. (*Fl. Brit. Ind.*, vi. p. 44), and is not yet known in cultivation. It is well figured by King and Pantling (*Ann. R. Bot. Gard. Calc.*, viii., p. 211, t. 281), and has flowers only half as large as those of A. Vandarum, but very similar in colour. It is also a native of the Naga Hills. The Sikkim plant referred to A. Vandarum in the *Flora of British India* belongs to A. longicornu. A. Vandarum has white flowers, slightly flushed with pink, and their structure is very well shown in the figure.

R. A. R.

LAW NOTES.

THE following is a translation of a short article which appeared in the issue for Tuesday, January 24th, of *L'Etoile Belge*, under the title "Pour 30,000 francs d'Orchidees."

The Belgian Tribunal of Commerce is at present hearing a case which awakens general public interest, particularly amongst English Orchid growers, who are anxiously awaiting the final decision.

A prominent English Amateur bought five small plants of alleged rare varieties of Odontoglossum crispum from a firm near Brussels for £1,200 (30,000 francs). The plants bought were not in flower at the time, and according to general custom the contract was made on the strength of water-colour drawings said to be the exact reproductions of the five plants when in flower.

At the time of flowering, the buyer found to his dismay that the flowers of these Orchids have none of the superior qualities represented by these water-colour drawings, which formed the basis of this contract, and therefore in no way justified the exceptional sum paid for them.

The Amateur through his counsel, M. Maurice Frison, asked the Tribunal to find for cancellation of the contract, alleging the non-existence of the rare qualities and the superior points positively put forward by the seller at the time of the sale. He (the amateur) maintains that the Orchids sold to him are of a common variety and not worth the tenth part of the price paid, and that the water-colour drawings which were submitted to him were not truthful reproductions, but merely fancy pictures, painted with a view to represent them as the rarest and most valuable varieties. Plaintiff's counsel contends that the said seller has repeatedly committed the same breaches of contract, and that these practices are bound to

compromise the good name which the Belgian Orchid trade has justly and legitimately acquired in all the international markets.

M. Wauwermans, for the defendant, pleads that the Orchids may have been exchanged, if not by the plaintiff, at least by one of his staff, and that, under the circumstances, it is impossible to admit of the cancellation of a sale regularly entered into by all parties.

We shall publish the judgment in due course.

ORCHIDS AT KEW.

SEVERAL very interesting Orchids are now in flower in the Kew collection, including the true Paphiopedilum javanicum, which is now found in very few collections. The plant of P. × siamense raised by Mr. Reginald Young, of Liverpool, has again flowered, and with its two parents, P. callosum and P. Appletonianum, both bearing several flowers, has formed a very interesting group. A good specimen of the Madagascar Cynorchis Lowiana is bearing a dozen racemes, and is very effective, while a group of three pans of the charming little C. compacta, from Natal, bears an aggregate of thirty racemes, the flowers being white. A plant of Aërides Vandarum on a raft is bearing eight spikes, whose general appearance may be inferred from a figure which appears on page 60. A plant of the graceful Platyclinis glumacea is carrying twenty spikes of flowers, which are as fragrant as heliotrope, and another pretty little plant having a precisely similar perfume is Epidendrum Allemanii, Rodr., a native of Brazil.

NOTES.

TWO meetings of the R.H.S. will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during February, on the 14th and 28th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

Mr. Harry J. Veitch retired from the Chairmanship of the Orchid Committee at the last meeting, which concluded the Society's year, and will remain as Vice-Chairman of the Committee. He will be succeeded by Mr. J. Gurney Fowler, the Society's Treasurer.

The dates of the February meetings of the Manchester and North of England Orchid Society, to be held at the Coal Exchange, Manchester, are fixed for the 2nd and 16th. The Committee meets at noon, and the Orchids are open to inspection from 1 to 3 p.m.

A flower of the distinct and pretty Brassolælia × Clio (Lælia cinnabarina ♀ × Brassavola glauca) is sent from the collection of Francis

Wellesley, Esq., Westfield, Woking, by Mr. Hopkins. Its parentage is very distinctly shown, the flower being smaller and the sepals and petals narrower than in B. glauca, but retaining its fleshy substance, while the colour is buff yellow, with a crimson band and some similar radiating veins at the base of the lip. The front lobe of the lip is very undulate, in which respect it resembles the Lælia parent.

It is interesting to record that two small plants of the graceful Neobenthamia gracilis, Rolfe, consisting of a single shoot each, were sold at Messrs. Protheroe & Morris' Sale Rooms the other day, fetching eleven shillings each.

Paphiopedilum Gratrixianum, Messrs. Sander's interesting novelty, proves remarkably near P. exul in the shape and colour of the flower, but differs in having much broader leaves, with numerous dusky dots at the base, also on the bract, and the lower sepal smaller than the lip. R. A. R.

LYPERANTHUS is a genus belonging to that remarkable group of Orchids known as Diurideæ, which is almost confined to Australasia. Its limits have not been very exactly defined, and none of the species are known in cultivation, though examples of Pterostylis, Caladenia, and one or two others are occasionally met with. Four species were known to Lindley, though two of them have since been excluded from the genus, as I believe, wrongly. Reichenbach abolished the genus, merging it in Caladenia, but no one has since followed him, and to do so is to ignore its well-marked structural differences. Seven species are now known, five being natives of Australia, one of New Zealand, and one of New Caledonia. The Australian species are L. nigricans, R. Br., named in reference to its character of turning black in drying. L. Forrestii, F. Muell., a comparatively recent addition from the Stirling Ranges, West Australia, L. ellipticus, R. Br only known from New South Wales, L. suaveolens, Lindl., which Fitzgerald thinks was named through some mistake, as the flowers have no perfume, and L. serratus, Lindl., limited to Western Australia. It is the two latter which are excluded by Bentham. The New Zealand species is L. antarcticus, Hook. f., and is found in the Middle Island and Lord Auckland's Islands. The New Caledonian species is L. gigas (Caladenia gigas, Rchb. f.), and is also found in the adjacent Isle of Pines. It is well named, being a comparative giant, from two to nearly four feet high, very robust, and bearing a close raceme from six to twelves inches long. It is evidently a striking thing, but would probably be difficult to introduce. Three of the Australian species are well figured by Fitzgerald in his excellent *Australian Orchids*. R. A. R.

ORCHID PORTRAITS.

CATTLEYA BOWRINGIANA LILACINA.—*Garden*, 1905, i. p. 45, with fig.

CATTLEYA LAWRENCEANA.—*Journ. Hort.*, 1905, pp. 68, 69, with fig.

CYPRIPEDIUM INSIGNE HAREFIELD HALL VAR.—*Gard. Chron.*, 1905, i., p. 27, fig. 14, 3. VAR. SANDERÆ.—*l.c.*, fig. 14, 2.

CYPRIPEDIUM × LEEANUM GIGANTEUM.—*Gard. Chron.*, 1905, i., p. 27, fig. 14, 1.

CYPRIPEDIUM × MEMORIA JERNINGHAMIÆ.—*Gard. World*, 1905, pp. 69, 73, with fig.

CYPRIPEDIUM × MORGANIÆ.—*Journ. Hort.*, 1905, i., p. 49, with fig.

CYPRIPEDIUM × NOGI.—*Gard. World*, 1905, pp. 29, 37, with fig.

CYPRIPEDIUM SUPERBIENS.—*Journ. Hort.*, 1905, i., p. 3, with fig.

CYPRIPEDIUM × WESTFIELDENSE.—*Gard. World*, 1905, pp. 69, with fig.

DENDROBIUM × MELANODISCUS PALLENS.—*Journ. Hort.*, 1905, i., p. 25, with fig.

DENDROBIUM TRIFLORUM.—*Gard. Chron.*, 1905, i., p. 15, fig. 6.

VANDA LOWII.—*Rev. Hort. Belge*, 1905, p. 17, with fig.

VANILLA HUMBLOTII, Rchb. f.—*Bot. Mag.*, t. 7996.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

H. G. A. We believe your flower to be a form of Paphiopedilum × aureum, the very variable hybrid between P. × Sallieri Hyeanum and P × Leeanum. It is most like the latter in shape, but has no spots on the dorsal sepal, while the presence of a narrow light purple median band is clearly derived from P. Spicerianum.

D. A. L. The Odontoglossum is not O. × Andersonianum, but O. gloriosum, one of the parents of that natural hybrid.

G. G. The flower sent is a good typical form of Odontoglossum × Andersonianum, a natural hybrid between O. gloriosum and O. crispum.

The Editor would be obliged if any reader who has a particularly fine form of Odontoglossum gloriosum would send him two or three flowers at the first opportunity.

F. J. H. The flower has been duly noted.

H. G. A somewhat peculiar form of Cattleya Trianæ, probably undeveloped, but such a form has appeared before.

L. C. Received with thanks. We will deal with the matter in a few days, when we hope to receive the other flower.

Photographs received with thanks. F. L., C. R.

EXCHANGE OF DUPLICATES. We have received an interesting letter on this subject from a correspondent who thinks it a very useful addition to the work. We may again call the attention of our readers to the conditions, which are given on page 3 of the Advertisement fly-leaf.

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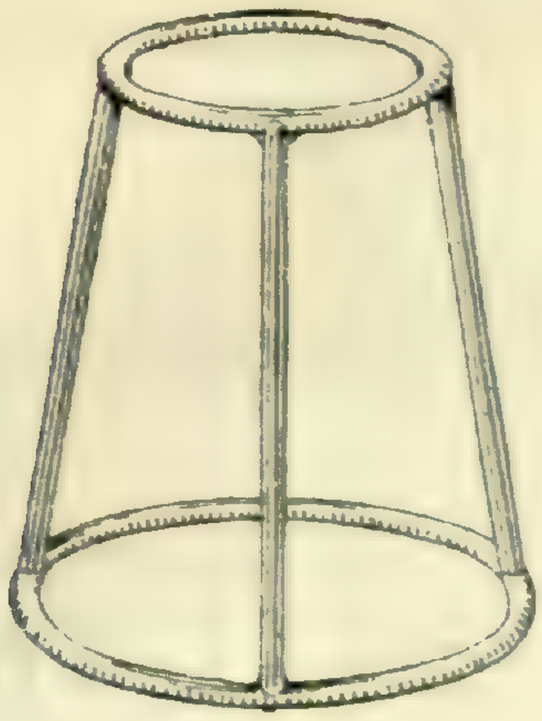

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EXCHANGE.

[Amateurs desiring to avail themselves of this column are invited to send lists of Duplicates and Desiderata, such lists not to exceed twenty names, and to be accompanied by the name and address of the sender, accompanied by a fee of one shilling to cover the cost. It is understood that the senders are responsible for the correctness of the plants offered.]

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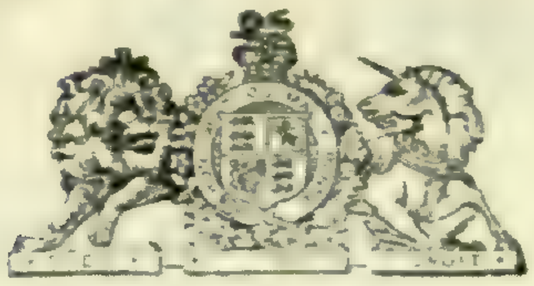

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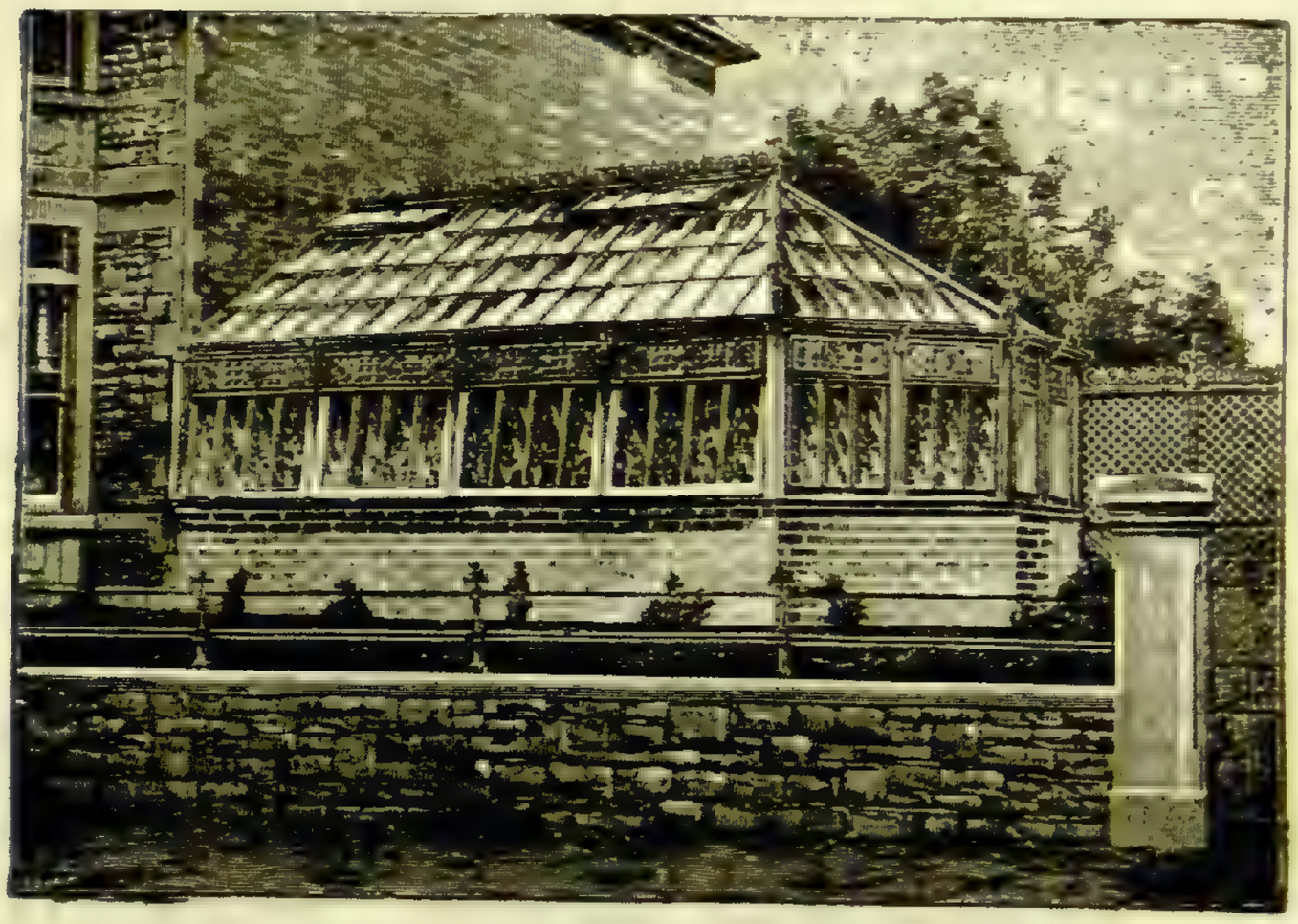

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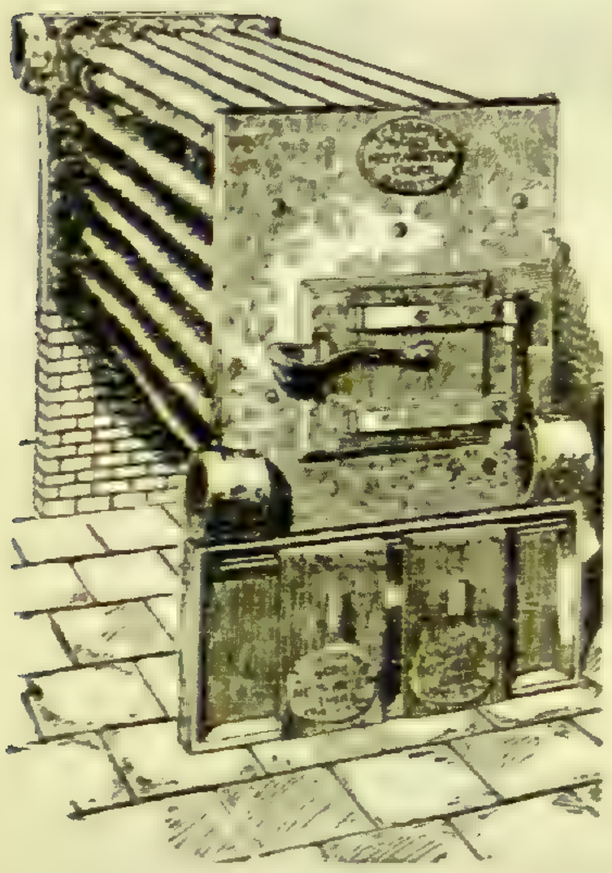

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THE ORCHID REVIEW:

An Illustrated Monthly Journal of Orchidology.

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THE ORCHID REVIEW.

VOL. XIII.] *MARCH*, 1905. [No. 147.

DIES ORCHIDIANI.

I WAS much interested to see the figure of the handsome blotched seedling of Odontoglossum crispum raised by Mr. Stevens (page 48), because it recalls a discussion which took place some time ago as to their origin and the possibility of raising them artificially. The latter point at all events is now set at rest, and it is evident that in the future we may look forward to further accessions, for the raising of seedling Odontoglossums has now passed into the practical stage, and there are so many choice forms in cultivation which can be used as parents. It will be interesting to see how far the theory of reversion holds good.

The article on Paphiopedilum Fairrieanum and its hybrids becomes very interesting, and it is remarkable what a wide range of variation the different forms present. The history of the "lost" species is certainly curious, and the indications given as to the source of the original importation may yet help to put collectors on the right track. Some of these days I fully expect to hear of the re-discovery of the species, and then there will be a little flutter of excitement. But whether or no, the plant will continue to live in its hybrids, for they are too beautiful to be neglected, and if pollen were only obtainable a great accession to the ranks might be anticipated.

The Editor of the *Journal of Horticulture* makes a suggestion, "that systematists be permitted to alter names only once every ten or twenty years, at which periods they might arrive at something approaching an accurate decision." On reading this I wondered what they had been up to, for such a suggestion would scarcely be made without some cause. The trouble seems to be about Neomoorea irrorata, figured as the frontispiece of the last volume of the *Orchid Review*. It used to be called Moorea, but it has been discovered that that name "properly belongs to the well-known Pampas-grass (now recognised as a distinct genus), having been applied to it over forty years ago, but afterwards lost sight of." All of which causes

the Editor to exclaim "Well! And this is botanical nomenclature." I looked up the original note, and found a reference to an earlier page, where it was said that the matter had been explained. There I found it stated that two different plants had been called Moorea, one of them forty-five years earlier than the other, that both were considered distinct, and that the name of the later one had been amended—after fourteen years' use.

Singularly enough the Editor of *Indian Gardening* has since made precisely the same suggestion in the self-same words, but neither of them state what ought to have been done under the circumstances.

On looking through my last terribly bulky but very interesting copy of the R. H. S. *Journal*, I find three figures of the remarkable Odontioda × Vuylstekeæ, from as many different sources, and no one on looking at them would suppose that all had been drawn from the same five-flowered inflorescence. Perhaps the Editor had a difficulty in deciding which was most like the original, and so inserted all of them, and perhaps he is a bit of a wag, but in any case he might have inserted one more block, taken from a photograph. There they are, but I suppose one must make a little allowance for the circumstances under which the drawings were made.

This reminds me that we have now a coloured drawing of this remarkable hybrid, together with its two parents, in the *Botanical Magazine* (t. 7990), which explains its origin in a very graphic way. The same may be said of another hybrid recently figured in the same work, namely, Zygocolax × Veitchii (t. 7980), an additionally interesting circumstance in the latter case being that the hybrid is now known to occur in a wild state. Had it not previously been raised artificially the probability is that it would have been described as a new species, for no one would have guessed its origin. It is fortunate that the *Botanical Magazine* has been able to illustrate these interesting plants.

I was recently shown a colour photograph of an Orchid taken automatically by the three-colour process, and my opinion was asked as to its accuracy and utility. It looks as if an artist had made a marvellously accurate drawing, and then dipped his brush into a slightly different colour. At the same time I have seen less accurately coloured lithographs, and if means can be devised for rendering the colouring as accurate as the drawing there is a great future before it. I am told that this is already possible to a certain extent by varying the relative amount of the three colours used, and I hope it is so, for the result is not yet quite satisfactory.

Hybridising Extraordinary.—The following was culled from the pages of *American Gardening* some time ago:—"To produce the hybrid a blackberry and a dewberry vine were placed under a screen cage, and twelve bees were put in the inclosure at blooming time. The bees carried the pollen from one plant to another and fertilized the blossoms. The result was a large dark red berry of the shape of the blackberry, with stem and leaves like a dewberry."

They must have been clever bees, and perhaps they had been specially trained. Mere ordinary bees might not have manipulated the pollen so artistically, and, of course, only hybrid seed was desired. Unfortunately the hybrid was not an Orchid, but then the parents were not, and this detail could easily be arranged. Our hybridists should take the hint, for a troupe of educated bees might bring about some surprising results.

Argus.

NOVELTIES.

Bulbophyllum Gentilii.—An ally of B. calamarium, Lindl. (*Bot. Mag.*, t. 4088), sent from the Congo district by M. Louis Gentil, in 1898, and flowered at Kew in September, 1903. It had previously been known from dried specimens, and, indeed, confused with the species named until the flowers were known. It is a strong grower, producing strobiliform racemes of closely imbricating bracts. The flowers are straw-coloured, striped and margined with purple, and the very hairy lip dark purple.—Rolfe in *Gard. Chron.*, 1904, ii., p. 266.

Bulbophyllum Kindtianum.—Another ally of B. calamarium, Lindl., but considerably smaller. It was sent from the Congo by M. Laurent to the Jardin Colonial, at Laeken, where it flowered last autumn.—De Wildem. in *La Belgique Coloniale*, 1904, p. 449.

Stelis Binoti.—A species introduced from Brazil in 1901 by M. Binot, and flowered in the Brussels Botanic Garden last autumn. The flowers are green, and are said to have been produced uninterruptedly for several months.—De Wildem. in *Gard. Chron.*, 1904, ii., p. 381.

Scaphyglottis Cogniauxiana.—A small species which flowered in the Brussels Botanic Garden in December last, and was recorded as a native of Brazil, but afterwards corrected to Mexico. It is said to be allied to S. prolifera, Cogn., but considerably larger, and with greenish yellow flowers. —De Wildem. in *Gard. Chron.*, 1905, i., p. 33.

Vanda Watsoni.—A striking new Vanda from the interior of Annam, where it grows at about 5,000 feet elevation. It was introduced by Messrs. Sander & Sons through their collector, W. Micholitz, and has now flowered with Mr. F. M. Moore, at Glasnevin. It resembles V. Kimballiana very

closely in habit, but differs in having white flowers, with a short sac instead of a spur. The crest of the lip and interior of the sac are yellow, dotted with red brown. It is dedicated, at Messrs. Sander's request, to Mr. W. Watson, Curator of the Royal Botanic Gardens, Kew.—Rolfe in *Gard. Chron.*, 1905, i., p. 82. See also p. 123, fig. 52.

PAPHIOPEDILUM FAIRRIEANUM AND ITS HYBRIDS.

BY FRANCIS WELLESLEY AND R. A. ROLFE.

(*Continued from page 44.*)

ONLY four of the hybrids obtained directly from P. Fairrieanum have so far proved fertile, namely P. × vexillarium, which has yielded eleven distinct hybrids, P. × Arthurianum, six, P. × Niobe, six, and P. × Baron Schröder, two. We have no record whatever of even a solitary seedling from P. × Juno, P. × Fairrieano-Lawrenceanum, P. × Ballantinei, P. × Constableanum, P. × Edwardii, P. × Amesiæ, P. × Regina, P. × Aasenii or P. × Princess. Taking them in the order given, and so commencing with P. × vexillarium, its eleven recorded hybrids are as follows :—

P. × APOLLO was raised in the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell, from P. × vexillarium ♀ and P. Stonei ♂, and was exhibited at a meeting of the R. H. S. on April 22, 1890. It is said to have retained chiefly the colour of the former, while the influence of the latter was seen in the projecting lip. The dorsal sepal is described as vinous-purple with darker veins, except in the centre, which is nearly green, fading to white at the apex and base. The petals are deflexed, linear, $2\frac{3}{4}$ inches long, and twisted at the apex, where the colour is rosy brown, while the basal part is yellowish, lined with brown and slightly spotted with brownish black, the margin being also ciliate towards the base.

P. × STATTERIANUM (P. Spicerianum ♀ × vexillarium ♂) is a beautiful flower, which was raised by Messrs. Charlesworth & Co., and exhibited by T. Statter, Esq., at a meeting of the R. H. S. on October 24, 1893, when it received a First-class Certificate. It is described as having a rich rose-purple dorsal sepal margined with white, and yellow and brown petals and lip. There is a figure in the *Journal of Horticulture* (1893, ii., p. 417, fig. 61). C. × Janus (*R. I. Measures, Cyp.*, ed. 3, p. 33) raised in the collection of R. I. Measures, Esq., of Camberwell, is a form of the same handsome hybrid.

P. × SINGLETONIANUM was exhibited at a meeting of the R. H. S. on August 11, 1896, by A. Singleton, Esq., of Chapel-en-le-Frith, and is said to have been derived from P. × vexillarium and P. barbatum Warneri, and thus should be three-fourths derived from the latter. We have not

seen it, and do not find a word of description about it, so that the record requires confirmation.

P. × vexill-Io (fig. 16) was raised in the collection of Norman C Cookson, Esq., Wylam-on-Tyne, from P. × vexillarium ♀ and P. × Io grande ♂, and a single bloom was exhibited at a meeting of the R. H. S. on January 20, 1893. It is a truly remarkable hybrid, and Mr. Seden thinks that it resembles P. Fairrieanum more closely than any of its progeny, primary or secondary. This is probably due to the fact that it

Fig. 16. Paphiopedilum × vexill-Io.

has lost much of the dark colour of P. barbatum, for a comparison with the figure and that given on page 12 will show that the shape and arrangement of the markings are considerably different. The ground colour may be described as whitish, suffused with purple on the margins of the petals, and the spots purple, while the nerves of the centre of the petals are green, likewise those of the dorsal sepal towards the base and apex. It is a very charming hybrid. The figure is prepared from a painting by Miss Roberts of a plant in the Westfield collection.

P. × BELLA (fig 17) is a handsome and richly coloured hybrid from the Westfield collection, which was exhibited at a meeting of the R. H. S. on August 23rd last. The parentage is described as vexillarium × philippinense, and it is most like the latter in shape, though the petals are shorter, broader, and less twisted, and the dorsal sepal greatly enlarged. The latter

Fig. 17. PAPHIOPEDILUM × BELLA.

organ has a white ground, becoming green at the base, while the markings are deep red-purple. The petals are of the latter colour above, and greenish spotted with brown at the base. It combine the best qualities of both its parents. The figure is from a painting by Miss Roberts.

P. × BELLATULO-VEXILLARIUM is a handsome hybrid which was exhibited by Mrs. Briggs-Bury, Bank House, Accrington, at the R. H. S. meeting on May 11, 1897, when it received an Award of Merit. It was described as bearing a great resemblance to P. × Leysenianum, the flower being white, tinged with rose, and densely spotted with purple. P. bellatulum was presumably the seed parent, but in the variety called Gratrixiæ the seed parent is recorded as vexillarium. It was exhibited at a meeting of the Manchester Orchid Society on May 19th, 1898, by S. Gratrix, Esq., of Whalley Range, and gained a First-class Certificate.

P. × DÆDALUS was raised in the collection of Reginald Young, Esq., Sefton Park, Liverpool, from P. insigne punctato-violaceum ♀ and P. × vexillarium ♂, and was described in this work (vi., p. 360). The facts seem to have been very carefully recorded, and it is curious that the Fairrieanum influence seems to have been lost. It is pointed out as a curiosity that a cross between Ashburtonæ and Arthurianum would have a practically identical composition, and such a cross has, in fact, been made by Mr. Young.

P. × JENSENIANUM was raised by Messrs. Sander from P. hirsutissimum × vexillarium, and was exhibited at a meeting of the R. H. S. in November, 1898. It is described by the raisers as a flower of a soft, reddish flush, with darker veinings and markings.

P. × ZALMOXIS was raised in the collection of Reginald Young, Esq., of Liverpool, it is believed from P. × Williamsianum ♀ and P. × vexillarium ♂, though the influence of the latter seems to have been completely lost. The hybrid is said to bear a greater resemblance to P. venustum, which was one of the original parents of P. × Williamsianum (*O. R.*, viii. p. 119). It would be interesting to know what the other three seedlings recorded are like.

P. × PHOEBE was raised by M. A. de Lairesse, of Liége, from P. × calophyllum × vexillarium, and is only known to us from M. de Lairesse's Catalogue. It may be added that the same name has been applied to a hybrid from P. philippinense × bellatulum raised by Mr. Appleton.

Lastly may be mentioned a seedling from P. × vexillarium × Argus, in the Westfield Collection, as yet unflowered.

The foregoing hybrids form a very interesting series, but there are two or three of them whose parentage we should like to see confirmed.

The secondary hybrids from P. × vexillarium naturally show more or less resemblance to P. barbatum, and in those from P. × Arthurianum, which are considered next, the influence of P. insigne is equally apparent.

P. × MINOS was the first of this series, and was raised by Messrs. James Veitch & Sons, the seed parent being P. Spicerianum. It flowered in November 1893, and received an Award of Merit from the R. H. S.

The varieties superbum and magnificum received similar awards in January, 1895, and December, 1897, respectively, when exhibited by the same firm. The latter variety is the best of the three, and the single plant has been divided into two, one portion being now in the Westfield collection. In November, 1897, Messrs. Veitch also exhibited the variety Alonzo, in which Arthurianum pulchellum was the pollen parent. Of this, also, we are

Fig. 18. PAPHIOPEDILUM × MINOS YOUNGII.

told, only a single seedling was raised. We only know it from description.

The variety Youngii (fig. 18) was raised in the collection of Reginald Young, Esq., Sefton Park, Liverpool, as a single seedling, and flowered for the first time in December, 1899, when it was exhibited at a meeting of the R. H. S., but it was not until February, 1903, that it received an Award of Merit from the Society. It is not only by far the best of the recorded

varieties of Minos, but it is at the same time one of the finest Cypripediums yet raised. Form, colour, substance and size leave nothing to be desired. A very capable judge of Cypripediums recently described it as "the finest Cypripedium in existence," and many Orchidists will agree with the encomium. The figure is from a painting by Miss Roberts.

The Westfield variety (fig. 19), like the preceding variety, differs greatly

Fig. 19. PAPHIOPEDILUM × MINOS WESTFIELD VAR.

from the other forms, having a large green disc to the dorsal sepal, closely lined with rows of dusky brown dots, and a very broad white margin, which renders it very bright and attractive. The petals are more undulate on the upper margin, rather less purple and more spotted.

(To be continued.)

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of the R.H.S. was held at the Royal Horticultural Hall, Vincent Square, Westminster, on February 14th, when there was a magnificent display of Orchids, and the awards included one gold and five other medals—one being the Lindley Medal for excellence in culture—one First-class Certificate, two Awards of Merit, four Botanical Certificates, and two Cultural Commendations.

Jeremiah Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), staged a large and brilliant group, which filled the large stage at the end of the Hall. It consisted chiefly of well-grown and profusely-flowered Dendrobiums, the majority being D. nobile varieties and hybrids, some white forms of Lælia anceps, hybrid Calanthes, a plant of the very rare Arachnanthe Cathcartii, Phaiocymbidium × chardwarense, two good Cymbidium grandiflorum, a number of the orange-coloured Epidendrum × Boundii, Spathoglottis aurea, Brassocattleya × Lindleyana, Brassolælia × Gratrixiæ (carrying a long-beaked capsule, recalling that of Brassavola Digbyana), a few good plants of Sophronitis grandiflora, Odontoglossum gloriosum and others, Cochlioda Nœtzliana, Masdevallia × Courtauldiana, M. polysticta, M. triangularis, and others far too numerous to mention. The plants were very effectively arranged with small palms and maiden-hair ferns, and the group received a Gold Medal, as well as the Lindley Medal for excellence of culture.

Baron Sir Henry Schröder, The Dell, Egham (gr. Mr. Ballantine), was awarded a Silver-gilt Flora Medal for a choice group of rare things, including the handsome Odontoglossum crispum Veitchianum, the rare O. nevadense, the beautiful O. × Adrianæ Victoria-Regina, a fine O. × Wilckeanum, O. Hallii xanthoglossum, O. × Humeanum aspersum, Dendrobium aureum album, D. bigibbum, D. × Virginia, some good Calanthe Regnieri and C. × Baron Schröder, Lycaste Skinneri and L. S. alba, Plalænopsis × leucorrhoda, Restrepia maculata, Sophronitis grandiflora, Cattleya Trianæ Russelliana and others, the handsome Cypripedium × Baron Schröder, C. × Harrisianum superbum, C. insigne Sanderæ, C. i. Laura Kimball, C. × Calypso, C. × Lathamianum, and other good things. A Botanical Certificate was given to Odontoglossum ramosissimum liliiflorum, a pretty lilac-pink form spotted with purple.

Norman C. Cookson, Esq., Oakwood, Wylam (gr. Mr. H. J. Chapman), received a Silver Flora Medal for a very fine group, in which Odontoglossums were well represented, the forms including O. crispum Lindeni, O. c. xanthotes Cooksonæ, O. c. Cooksonianum, O. c. purpurascens, the dark O. c. Sibyl, O. × excellens Prince of Orange, Cypripedium × Orion

bellum, and some beautiful Lælio-cattleyas, which were said to have flowered in three years from sowing the seed. They were named L.-c. × Oakwood Alpha (L.-c. × Ernesti Princess Olga × C. Schroderæ), L.-c. × Oakwood Beta (L.-c. × Lord Rothschild × callistoglossa), L.-c. × Oakwood Gamma (L. Jongheana × L.-c. × Ernesti Princess Olga), and L.-c. × Oakwood Delta (C. Schroderæ × L.-c. × Ernesti Princess Olga).

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), sent the handsome Dendrobium × Euryalus purpurascens, D. × Wiganiæ xanthochilum, D. × Melpomene, and Cypripedium × Watsoni, a beautifully coloured hybrid. A Cultural Commendation was given to a fine plant of Sophronitis grandiflora bearing about sixty flowers, and Botanical Certificates to Dendrobium æmulum and Vanda Watsoni. The latter is described on page 67.

J. F. Craven, Esq., the Beeches, Keighley, Yorks (gr. Mr. Corney), received an Award of Merit for Cypripedium × Leoniæ Craveniæ (callosum × insigne Harefield Hall var.), an exceptionally fine form most resembling the latter parent in shape.

W. M. Appleton, Esq., Weston-super-Mare (gr. Mr. Brooks), exhibited Cypripedium × Daphne (exul × Charlesworthii), C. × Leeanum Appletoniæ, and C. × Honnoriæ (Druryi × Godefroyæ leucochilum), the last receiving an Award of Merit. This had a beautiful ivory-white flower, spotted with purple, and a purple line up the centre of the petals.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), showed Lælia anceps Hollidayana rosefieldiensis, L. a. Theodora, and Odontoglossum × loochristiense Theodora, the last being a very sturdy plant with a strong spike of flowers and a big seed-capsule. A Cultural Commendation was given to O. triumphans leopardinum, with a very tall spike, bearing seven side branches and an aggregate of thirty-five flowers.

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, sent the handsome Mormodes badium luteum, together with Dendrobium cymbidioides, the true plant, whose history was given at page 69 of our last volume. A Botanical Certificate was awarded to the latter.

J. Bradshaw, Esq., The Grange, Southgate, N. (gr. Mr. Whitelegge), exhibited good forms of Cattleya Trianæ and Lycaste Skinneri.

H. S. Goodson, Esq., Putney (gr. Mr. Day), showed Cypripedium × Katherine (insigne Sanderæ × superbiens).

Capt. G. L. Holford, C.I.E., Westonbirt (gr. Mr. Alexander), sent Sophronitis rosea.

C. J. Lucas, Esq., Warnham Court (gr. Mr. Duncan), showed a good form of Læliocattleya × bletchleyensis, Cypripedium × Calypso, and C. × Lathamianum superbum, a very handsome form.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), showed

good forms of Lælia anceps Schrœderiana and Cypripedium Boxallii Rosslyn var.

F. Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent Cattleya Trianæ Laura, an albino form with a slight tinge of pink on the lip, and Cattleya chocoensis Westfield variety, a pretty white form with some yellow and purple lines on the disc of the lip.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a splendid group, for which a Silver-gilt Flora Medal was awarded. It contained fifty fine examples of Phalænopsis Schilleriana, P. sumatrana, Trichopilia suavis, Dendrobium atroviolaceum, some handsome forms of Odontoglossum crispum, × Adrianæ and × ardentissimum, Lælio-cattleya × Andromeda, L.-c. × luminosa, L.-c. × Myra, cut spikes of the handsome L.-c. × Charlesworthii, L.-c. × Sunray, Cattleya × Octave Doin, Brassocattleya × Digbyano-Warscewiczii, and other showy things.

Messrs. Sander & Sons, St. Albans, were awarded a Silver Flora Medal for an excellent group, containing Odontoglossum × blando-nobile, O. × Wilckeanum, O. × Harryano-crispum Rex (Harryanum × crispum Rex), O. × loochristiense Sander's variety, many spotted forms of O. crispum, Cypripedium × Helen II., C. × H. II. pulchrum, Epidendrum × Endresio-Wallisii, Spathoglottis aurea, Dendrobium bellatulum, and many botanical rarities. A First-class Certificate was given to Cymbidium Sanderi, a handsome thing introduced from Annam by Micholitz, and now flowering for the first time. The plant was an imported one and had lost its leaves. It bore a scape 2 feet long with three expanded white flowers, handsomely spotted with purple on the lip. A Botanical Certificate was given to the white Vanda Watsoni, an ally of V. Kimballiana.

Messrs. J. Veitch & Sons, Chelsea, staged a good group, which gained a Silver Banksian Medal. It included Lælio-cattleya × Violetta, L.-c. × warnhamensis, L.-c. × Pallas, L.-c. × Haroldiana, two examples of Calanthe × gigas, Lælia × Mrs. Gratrix, Dendrobium × Ophir, Cypripediums, and other plants.

Messrs. J. Cypher & Son, Cheltenham, exhibited a pretty group containing excellent forms of Dendrobium nobile, including the varieties Cypheri, nobilius, Amesiæ, and pulcherrimum, all very fine, together with Masdevallia Gargantua (a form of elephanticeps), Cypripedium × Swinburnei, C. × aureum virginale, C. × Winnianum, Cattleya × calummata, and others.

Messrs. H. Low & Co., Bush Hill Park, showed a small group, containing the handsome Lælio-cattleya × Captain Percy Scott, Bush Hill Park var., L.-c. × Helena, forms of Cattleya Trianæ, Cypripedium × Sallieri Hyeanum, C. × J. Howes, and other good things.

Mr. Ch. Vuylsteke, Loochristi, Ghent, sent a few good Odontoglossums,

including O. × bellatulum, O. × Harryano-crispum, and O. luteopurpureum radiatum.

Mr. John Robson, Altrincham, sent a hybrid Cypripedium, possibly a form of C. × aureum.

AT the meeting held on February 28th the display of Orchids was much smaller, but a good many interesting things were staged, and the meeting was distinguished by the presence of a group of beautifully coloured photographs of Orchids.

Mr. H. J. Chapman, gr. to N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne, showed a series of about three dozen excellent photographs of Orchids, beautifully hand-coloured and mostly life-size, the representations being very exact. They comprised blotched forms of Odontoglossum crispum, Cattleyas, Cypripedes, &c. A Silver Flora Medal and a Vote of Thanks were awarded.

Sir F. Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), obtained a First-class Certificate for Lycaste Skinneri alba magnifica, a remarkably fine white form having a yellow crest to the lip.

Capt. G. L. Holford, C.I.E., Westonbirt (gr. Mr. Alexander), exhibited Cattleya Trianæ Westonbirt var., a very handsome form which is described on another page; and a fine specimen of Ada aurantiaca with forty spikes of flowers bearing over 500 flowers, the latter gaining a Cultural Commendation.

F. Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), showed Cypripedium × Colossus Westfield var., C. × allertonense (bellatulum × villosum aureum), and the richly-coloured Lælia × Iona nigrescens, the latter obtaining an Award of Merit.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), exhibited Dendrobium × Wiganiæ nobilius and D. aureum album.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Chapman), sent Phaius × Clive and Dendrobium × orphanum, the latter having yellow flowers with a claret-purple disc to the lip.

W. Macdonald, Esq., Pitlochry, N.B. (gr. Mr. Gilchrist), sent an example of Cypripedium × Actæus.

Sir R. Montcreiffe, Bart., Bridge of Earn, N.B. (gr. Mr. Common), showed a good white Odontoglossum crispum.

J. S. Moss, Esq., Wintershill Hall, Bishop's Waltham (gr. Mr. Kench), exhibited a handsome Odontoglossum Pescatorei having the flowers spotted with purple.

Mr. H. Parr, Trent Park Gardens, Barnet, showed Dendrobium Wardianum album Trent Park var.

The Rt. Hon. Lord Rothschild, Tring Park (gr. Mr. Dye), sent

Brassocattleya × Digbyano-Mossiæ and Lælio-cattleya × luminosa superba.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), sent a fine example of Cyrtopodium punctatum bearing three inflorescences, which produced a fine effect.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), exhibited the richly-spotted Odontoglossum crispum Veitchianum and O. × Wattianum Hardy's var., both the plants being finely grown.

W. D. Stapleton, Esq., Holly Dene, Coalville (gr. Mr. Mount), sent flowers of two Cypripedium hybrids.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. Black), sent Dendrobium × chessingtonense (aureum × Wiganiæ), having the flowers yellow, with a purple disc to the lip.

Mr. J. Cypher, Cheltenham, staged a fine group, the largest of the day, a Silver Banksian Medal being awarded. It contained many choice Dendrobiums, including D. nobile varieties album, Amesiæ, Ballianum, Cypheri, Statterianum, nobilius, Purity, D. × Curtisii, D. × Cybele nobilius, D. × splendidisimum marginatum, D. × Ainsworthii intertextum, a very finely flowered D. barbatulum, Cypripedium × Mons. de Curte, C. × Sallieri Hyeanum, C. × S. aureum and others.

Messrs. J. Veitch & Sons, Chelsea, were awarded a Silver Banksian Medal for an excellent group of hybrids, containing Lælia × splendens, Lælio-cattleya × Myra, L.-c. × Antimachus, L.-c. × Violetta carnea, Phaio-calanthe × Sedeni alba, and Cypripedium × Harri-Leeanum, together with C. villosum giganteum, Lælia flava, Dendrobium atroviolaceum and Phalænopsis Stuartiana.

Messrs. H. Low & Co., Bush Hill Park, exhibited Lycaste Skinneri alba magnifica, a fine plant, which gained a First-class Certificate.

Mr. H. A. Tracy, Twickenham, sent Odontoglossum × loochristiense Tracyanum (crispum × triumphans), a large and handsomely spotted imported variety, which gained an Award of Merit.

Messrs. Sander & Sons, St. Albans, showed a small group, containing a good Odontoglossum crispum, O. triumphans latisepalum, Cypripedium × Prince Humbert (Mastersianum × niveum), and a handsome form of C. insigne having large purple blotches on the upper part of the dorsal sepal.

Messrs. McBean & Sons, Cooksbridge, exhibited Cypripedium × Grace Ruby (Dayanum × Godefroyæ leucochilum), having a large cream flower spotted with purple.

Mr. Geo. Paul, the Old Nurseries, Cheshunt, showed some good forms of Cœlogyne cristata from imported plants.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on February 2nd, when there was a good display of Orchids.

W. Thompson, Esq., Stone (gr. Mr. Stevens), sent a small but very choice collection of Odontoglossums, to which a Vote of Thanks was accorded. O. × Vuylstekei Walton Grange var. is a magnificent thing, and was unanimously awarded a First-class Certificate. A fine plant of O. × crispo-Harryanum, with a spike over a yard long and two branches, was awarded a Cultural Certificate.

A. Warburton, Esq., Haslingden (gr. Mr. Bailey), exhibited one of his own hybrid Odontoglossums, which was the product of crossing a rose-coloured variety of O. crispum with O. c. Lindeni. The flower was well marked, and when the plant has grown strong it will be a valuable addition to the spotted forms (Vote of Thanks).

S. Gratrix, Esq., Whalley Range (gr. Mr. Cypher), exhibited some Cypripediums, the best of which was C. × Euryades "Gratrix's variety," a very handsome form. Dendrobium × Ainsworthii "Gratrix's variety" was also shown.

Mrs. S. Gratrix exhibited Cattleya Trianæ var. Mrs. S. Gratrix, of good form and very pleasing character (Award of Merit); also Cypripedium × Briton, a hybrid between C. × Calypso × C. insigne Harefield Hall var. (Award of Merit).

Father Crombleholme, Clayton-le-Moors, exhibited Cypripedium × Esperanda.

Messrs. H. Low & Co., Enfield, staged a group of a few good plants, to which a Vote of Thanks was accorded. Cypripedium × Mrs. Tautz received an Award of Merit, and C. × Minos Low's variety was also shown in a well-grown and well-flowered plant.

Messrs. Sander & Sons, St. Albans, exhibited Cypripedium × Orion var. bella, a very pretty and distinct hybrid between C. concolor and C. insigne var. Sanderæ (Award of Merit).

At the meeting held on February 16th there was a good display of plants, including several interesting groups.

A. Warburton, Esq., Haslingden, staged a fine group of Odontoglossums, including some good forms of O. crispum, a Silver Medal being awarded.

Mrs. Ardern, Stockport (gr. Mr. Morris), sent Odontoglossum × ardentissium var. "Lawrence," a well-shaped light variety, in which the blotches are copious but very pale, and the lip most like O. Pescatorei. A First-class Certificate was awarded.

S. Gratrix, Esq., Whalley Range (gr. Mr. Cypher), received a First-class Certificate for Cypripedium × aureum var. Œdipe.

J. E. Williamson, Esq., Stretford (gr. Mr. Jones), staged a bright group of Dendrobiums, species and hybrids, to which a Bronze Medal was awarded.

Mr. P. Weathers, Botanical Gardens, Old Trafford, received an Award of Merit for Cattleya Trianæ excellens.

E. Rogerson, Esq., Didsbury (gr. Mr. Blomeley), exhibited the fine Odontoglossum crispum Mariæ, and another good form which the Committee wished to see again.

Messrs. James Cypher & Sons, Cheltenham, staged a fine group, consisting largely of Dendrobiums, species and hybrids, to which a Silver Medal was awarded. An Award of Merit was also given to D. nobile var. Purity.

M. Ch. Vuylsteke, Loochristi, Ghent, staged a choice group of Odontoglossums, mostly hybrids, to which a Vote of Thanks was accorded.

Messrs. J. Cowan & Co., Gateacre, also received a Vote of Thanks for a showy group, consisting principally of Cattleyas and Lycastes.

Messrs. A. J. Keeling & Sons, Bradford, staged a bright group of Dendrobiums, noteworthy among them being D. × Iris, D. × melanodiscus Aurora, and D. × Luna, a Vote of Thanks being accorded to the group.

MASDEVALLIA PACHYURA.

A PLANT of this rare species is now in flower in the Hon. Walter Rothschild's collection at Tring Park, and as it has not previously been described in these pages a few lines may be of interest. It belongs to the Amandæ section of the genus, and was discovered by Roezl in the mountains of Ecuador, being first described by Reichenbach in the *Gardeners' Chronicle* (1874, ii., p. —), from dried specimens. It was figured in Miss Woolward's *Monograph of Masdevallia*, from flowers sent by Mr. James O'Brien. The leaves are five to six inches long and nearly 1 inch wide, and the peduncles 6 inches long, with 3 or 4 flowers. The sepals form a wide tube, gibbuous below, pale whitish yellow, semi-transparent, and covered with small transverse reddish crimson spots, the central nerve terminating in slender tails half an inch long. The lateral sepals are oblong, with reflexed margin, and the colour is yellow with reddish crimson spots, and a dark crimson central streak. The petals and lip are, as usual, inconspicuous. The plant at Tring Park generally flowers twice a year, in summer and again in winter, and the flowers produced in summer agree in every respect with Miss Woolward's description. In winter, however, there is not the slightest trace of the transverse reddish crimson spots.

R. WARRIOR.

Tring Park Gardens.

ODONTOGLOSSUM × LAIRESSEI.

WE have now a remarkable hybrid from Odontoglossum Edwardii to record. It was raised by M. A. de Lairesse, of Liége, from O. Cervantesii roseum ♀ and O. Edwardii ♂, and has just flowered for the first time. The plant is three years old and has two bulbs, and the spike produced is about 25 inches long and bears eleven flowers. M. de Lairesse also states that he has another plant of the same cross which has a rather longer spike with 25 buds. The flower sent has been photographed by Mr. C. P. Raffill, and is here reproduced natural size (fig. 21), together with a flower of O. Cervantesii (fig. 20) for comparison. We were unable to obtain a flower of the variety roseum (which however only differs in colour) or of O. Edwardii but the latter is very well known, and we need only add that

Fig. 20. O. CERVANTESII. Fig. 21. O. × LAIRESSEI.

the flowers are smaller than those of the hybrid, the sepals and petals undulate, and the colour deep purple with a yellow crest to the lip. As to the shape of the hybrid very little need be said, for the photograph shows how much the segments of O. Cervantesii have been reduced in breadth by the influence of O. Edwardii. Their colour may be described as pale blush pink, with a dark violet purple area at the base, approaching the colour of the pollen parent. The crest of the lip is fairly intermediate in shape, and bright yellow, with a few largish dark brown spots. The column of the hybrid, it will be seen, closely resembles that of the seed parent. It is a very distinct and striking hybrid, in its way as remarkable as the Odontioda which appeared last year, though not equally showy. M. de

Lairesse must be congratulated on his success in uniting two such very distinct species.

Two handsome forms of O. × amœnum (O. sceptrum × Pescatorei) are also sent by M. de Lairesse, one having a cream-coloured ground, the other yellow, becoming lighter on the centre of the petals. Both are very heavily blotched with dark brown, and thus the sceptrum character is well maintained, though the lip is decidedly pandurate. In the cream-coloured one the column wings are more toothed than in the other.

Another interesting hybrid has been raised by M. de Lairesse from O. blandum ♀ and O Pescatorei ♂, and this has been acquired by Messrs. Sander & Sons, who exhibited it at the R.H.S. meeting on February 14th, under the name of—

O. × BLANDO-NOBILE.—A flower given to us by Messrs. Sander measures two inches across its broadest diameter, and has most of the O. blandum shape and acuminate segments. The colour is cream white spotted with purple-brown on the sepals and petals. The lip is also most like O. blandum in shape, and has some small blotches in front of the crest. The latter is yellow, and shows traces of the side teeth, as in O. Pescatorei. The broader column wings also show the influence of the same species, but are toothed and somewhat oblique. We do not find anything like it among natural hybrid Odontoglossums. We are extremely glad that M. de Lairesse has commenced his work by keeping careful records of parentage, which is highly important in any case, and especially so in a genus which contains so many difficult natural hybrids. Another very interesting cross is now showing for flower, which we hope to see.

ODONTOGLOSSUM × STELLA.—This is a bright and effective hybrid, raised in the collection of William Thompson, Esq., Walton Grange, Stone, by Mr. Stevens, from O. sceptrum aureum × O. triumphans "King Alfred," one of the latisepalum type. It is quite intermediate between the parents, being most like O. sceptrum in size, in the spotting on the petals, and in having toothed column wings, but more like O. triumphans in other respects, especially in the shape and markings of the lip. The crest shows the characteristics of both parents. The ground colour of the flower is bright yellow, blotched with deep brown on the petals, the blotches becoming smaller and more numerous near the base, while the greater part of the sepals is deep brown. The lip has one large area in front, and numerous small small spots on the crest. One of the seedlings flowered for the first time about a year ago. Mr. Stevens remarks that the plant is still very small, the pseudobulbs being about the size of one's little finger nail, but it should develop into a handsome thing when it becomes strong.

CALENDAR OF OPERATIONS FOR MARCH.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THE sun is fast gaining power: the atmosphere of each department becomes nicely warmed without the aid of much heat from the hot water pipes, and the growing season may be said to have fairly commenced. Under these conditions the temperature may now be raised to the following figures:—

COOL HOUSE.—Day, 55° to 60°; night, 53°; morning, 48°.

INTERMEDIATE HOUSE.—Day, 63° to 68°; night, 63°; morning, 58°.

WARM HOUSE.—Day, 70° to 75°: night, 68°; morning, 65°.

The above figures will serve as a guide, but we must take into consideration that this month is, perhaps, the most difficult of all in which to maintain a steady and regular temperature. Sometimes the bright sun causes the thermometer to indicate a much higher degree than recommended, but this will do no harm, being preferable to the admission of too much air, which is at this period very searching. On the other hand, in the absence of sun, the weather may sometimes be wintry, and then I would advise a temperature a few degrees below that quoted.

Damping down about three times a day in all departments will now be necessary, for the fire heat by night, combined with the sun by day, which is generally accompanied by drying winds, soon causes the atmosphere to become too dry, unless this precaution of damping down be taken. But do not sprinkle a little water on the floors and think that sufficient; do it thoroughly well, by saturating between the pots, the stages, the walls, the floors, and in fact every space that can be damped without wetting the plants overhead.

Attention should be now turned without delay to the important matter of shading. The cool Orchids, if in a light built house, which is exposed to the sun's rays, will now require it, as also many of the warm house Orchids, which are partial to shade, for a few hours during the day. Many are the kinds of shading employed, and various are the ways and means of fixing them. Most growers have their own ideas and inventions, both as regards material and the speedy method of bringing it in and out of use. This is, of course, a necessity, for often there is some peculiarity of or complication in the structure that requires to be specially dealt with. Firstly, I would advise that the shading be not permanent if it can possibly be avoided, but let it be placed so that it can be removed or rolled up during the evenings or sunless days. Secondly, let the shading be of suitable thickness for the plants which it is intended to cover. For cool Orchids, and all others preferring shade, it should be rather thickly woven; but for those only loving partial shade, such as most of the Cattleyas and Dendrobiums, it should be about half as thick; while for those loving more light, such as the Mexican

Orchids, it should be very thin. Lath blinds are now largely used for shading purposes; they are extremely good and very serviceable. Thirdly, let the blinds, whatever kind they are, be raised if possible six inches at least from the glass roof of the house, for this is a great advantage in keeping the temperature low during the hot weather.

The deciduous Calanthes should now be occupying a warm and dry position in the Warm house. They will soon be on the move again, but the beginning of next month will be soon enough to re-pot these Orchids. The roots push out then quicker, and are better able to take to the new soil while it is still fresh and sweet. A good compost is necessary, and should consist of one half good fibrous loam, one fourth leaf soil, and the remainder finely chopped moss, with a good sprinkling of coarse silver sand or finely broken crocks, and dry cow manure added, the whole being well mixed together. The compost, being prepared, should be laid a few days prior to use in a suitable place to get warm. Previous to repotting shake out all the old soil, and shorten back the roots to about an inch. This portion will help to keep the plants firm until new roots obtain a firm hold of the compost. Clean pots should be used, the sizes varying according to the discretion of the cultivator. I prefer potting them singly, using five or six inch pots for the strongest bulbs, and proportionately smaller ones for the others. Give good drainage, the pots being rather more than a third filled with clean crocks, and place over this a layer of the most fibrous part of the compost, in order to prevent the drainage from becoming choked. In filling the pots the soil should be shaken down moderately firm to about an inch of the top; then place the pseudobulb on the surface, with additional soil added, so that the base of the bulb is just covered. This will leave about half an inch of space, which will allow of a little top dressing of good fibrous loam when the plants become established. After potting, place them in their growing quarters, which should be a light position near the glass in the warmest house. **Give little or no water for a few weeks, merely** damping the stage and syringing between the pots. As growth advances, a light sprinkling should be given, doing this with care, especially before the young roots have a firm hold; if too much water be given the young growths are sure to develop "spot."

Towards the end of this month will also be early enough to re-pot Thunias. These should still occupy a dry place in a light position in the Mexican house, taking care that they get but very little water. Of course, if either Calanthes or Thunias have previously been kept wet or otherwise unduly excited, so as to cause early growth, which is already perhaps two or three inches long, the above remarks will not apply, and in such cases they should be potted up earlier, taking care that both are kept on the dry side afterwards, until the new growth is well up and the plants nicely rooted.

A compost similar to that given for Calanthe will answer well, give good drainage, and place four or five strong bulbs in a 32-sized pot, and pot firmly. They should be grown fully exposed to the sun. The winter or early spring-flowering Dendrobiums are now at their best, and what a beautiful display they make. The varieties are now numerous, and most remarkable compared with a few years ago. Those which have passed out of flower should be examined, and all necessary re-potting or top dressing done, afterwards placing them in their proper growing quarters. Too much heat, however, need not yet be given, until we can rely more upon our fickle climate for assistance in the matter of natural heat. Dendrobiums should have no check after once being started. It is noticeable that if they are again taken back to a cooler house, in order to retard the opening of the flowers for any purpose, they usually come small in size and inferior in colour.

This is a good time to go through the Mexican house Orchids, well cleaning the Lælia anceps, and giving them the necessary attention as regards re-potting and top-dressing. A plant, if properly watered and attended to, should last, in many cases, three years without being taken right out. Indeed, they may go longer, but it is far better practice not to let the plants become exhausted through neglect in this matter, for they rarely ever regain their former health and strength. There is no doubt that all this family of Lælias do very well in baskets, but I always prefer pans on the stages, if raised well up near the light.

In the Cattleya house, C. Trianæ is now in full beauty, and will soon be emitting new roots, and therefore may be taken in hand for re-potting, if necessary. C. Warscewiczii (gigas) will be starting to grow, but must not be disturbed until growth is finished, about August; the same may be said regarding C. Warneri. Water them sparingly indeed until the new growths are three or four inches long, and they will then flower more freely than if kept too abundantly supplied with water from the first.

Seedling Dendrobiums, Cattleyas, and Lælias must now receive attention, and at once be put right for growing, so that they may enjoy the full advantage of a long season of activity. Keep them in comparatively small pots, but give them fresh material if possible. They are at all times best if kept well up to the roof glass, but not too much exposed to the direct rays of the sun, or damage may be done to the tiny little plants that can never be retrieved.

There will now be a good show of flowers in the various departments, including numerous beautiful species and hybrids of Dendrobium, the chaste and beautiful Cœlogyne cristata, Cattleya Trianæ, Phalænopsis, and others too numerous to mention, but care should be taken not to leave the flowers too long on weak plants.

R. H. S. ORCHID COMMITTEE.

THE following constitute the Orchid Committee of the Royal Horticultural Society for the current year. (Two vacancies by death have not been filled up):—

FOWLER, J. GURNEY, Glebe Lands, South Woodford, *Chairman.*

VEITCH, HARRY J., F.L.S., 34, Redcliffe Gardens, South Kensington, *Vice Chairman.*

COOKSON, NORMAN C., Oakwood, Wylam-on-Tyne, *Vice-Chairman.*

SCHRÖDER, Baron Sir HENRY, Bart., V.M.H., The Dell, Staines, *Vice-Chairman.*

O'BRIEN, JAMES, V.M.H., Marian, Harrow-on-the-Hill, *Hon. Sec.*

ASHTON, F. W., Southgate, N.

ASHWORTH, ELIJAH, Harefield Hall, Wilmslow, Cheshire.

BALLANTINE, H., The Dell Gardens, Staines.

BILNEY, W. A., Fir Grange, Weybridge.

BOLTON, W., Wilderspool, Warrington.

BOND, T. W., Elstead House Gardens, Godalming.

BOXALL, W., V.M.H., 186, Brook Road, Upper Clapton.

BROOMAN-WHITE, R., Arddarroch, Garelochhead, N.B.

CHAPMAN, H. J., The Gardens, Oakwood, Wylam-on-Tyne.

CHARLESWORTH, J., Heaton, Bradford.

COBB, W., 33, Broadwater Down, Tunbridge Wells.

COLMAN, JEREMIAH, Gatton Park, Reigate, Surrey.

CRAWSHAY, DE BARRI, Rosefield, Sevenoaks.

DOUGLAS, JAMES, V.M.H., Edenside, Great Bookham.

GLEESON, M., 4, High Street, Watford, Herts.

HISLOP, A., Bletchley Park Gardens, Bletchley.

LITTLE, H., Baronshalt, The Barons, E. Twickenham.

MACBEAN, A. A., Cooksbridge, Sussex.

MOORE, F. W., V.M.H., Botanic Gardens, Glasnevin, Dublin.

MOORE, G. F., Chardwar, Bourton-on-the-Water, Glos.

MORRIS, H. G., 68, Cheapside, E.C.

ODELL, J. W., The Grove, Stanmore, Middlesex.

PITT, H. T., Rosslyn, 57, Stamford Hill, N.

POLLETT, H. M., Fernside, Bickley, Kent.

POTTER, J. WILSON, Elmwood, Park Hill Road, Croydon.

SANDER, F., V.M.H., St. Albans.

THOMPSON, W., Walton Grange, Stone, Staffs.

THORNE, F. J., The Gardens, Sunningdale Park, Berks.

THWAITES, R. G., 23, Christchurch Road, Streatham Hill.

TRACY, H. A., Amyand Park Road, Twickenham.

WELLESLEY, FRANCIS, Westfield, Woking.

WHITE, W. H., Burford Lodge Gardens, Dorking.

YOUNG, W. H., Clare Lawn Gardens, East Sheen, S.W.

ORCHIDS AT THE ANTIPODES.

I AM indebted to a friend for the loan of a Volume of the ORCHID REVIEW, and with no small amount of pleasure did I study its pages.

In Sydney here we have an Orchid Section in connection with our Horticultural Society, but our number of exhibiting members only being about 7 or 8, we were not able to stand without the support of this Society, although there are, I suppose, some 20 or more Orchid growers around Sydney.

Several of these treat almost exclusively our indigenous varieties, the flowers of a good many of which require a search warrant and bull's eye lantern to find them, then a microscope to examine them. Nevertheless, there are plenty which well repay growers. Take, for instance, the one figured at page 137 of your twelfth volume, Dendrobium linguiforme. This little rascal is as tough as nails, and in its profusion of white graceful racemes calls forth admiration from all. This grows plentifully around Sydney, and delights to climb down rocks which face our mid-day sun. Gathered in the summer, you would feel very much inclined to call it "bag of bones." Take him home, give him a drink, and off he goes with new roots and a full stomach. Our rock lily, D. speciosum, may be seen in a variety of queer situations under cultivation. Of course the most natural place to grow anything is in the garden, and Mr. Rock Lily gets dumped in and well earthed up or perhaps well set down in a kerosene tin of tough soil,—this, of course, by the uninitiated, yet he sails along, and flowers away with the best of them.

As Hybridization seems to be all alive in England, you, with your choicest varieties to work upon, will, of course, always produce the finest results. This has given me the desire to try the well-known Catalogue varieties of Dendrobiums on our Colonial subjects. I have several capsules so far which will soon be ready to grow, some of which have been crossed and grown in the Bush-house and some under glass. The health and vigorous appearance of the Bush-house capsules look so favourable that I am convinced the main requirement of Orchids is the sweet, pure air. It is, in my opinion, of more importance than potting soil, about which European growers have a good bone to pick.

I am following out the fresh air treatment in regard to the seed which I have sown, and anxiously look forward to the time when I shall or may see some result.

Sydney. CLARENCE GOSPER.

We shall hope to hear further of the success of these experiments. The germination of the seeds always seems to be the most difficult task.—ED.

ORCHIDS IN SEASON.

THE winter-flowering Dendrobiums are again making a brilliant show, as we are reminded by a beautiful series from the collection of the Right Hon. Joseph Chamberlain, M.P., sent by Mr. Mackay. They include such sterling things as D. × Schneiderianum, having a rich orange-coloured disc blotched with brown, the charming D. × Burberryanum, in which the characters of D. Findlayanum and D. × Dominyanum are combined, D. × Wiganiæ and the darker yellow D. × Melpomene, the charming varieties of D. × melanodiscus known as Rainbow, Luna, Dido, and Highbury var., D. × Ainsworthii Edithæ, the brilliant D. × Rubens grandiflorum, the nearly white D. × Apollo album, the curious D. nobile burfordiense, in which the inner halves of the lateral sepals are blotched with maroon like the disc of the lip, D. × chlorostele Owenianum and xanthocentron, the latter having a very brilliant orange disc, and a pretty form of D. × Cybele called Aurora. A six-flowered inflorescence of the brilliant Lælio-cattleya × Topaz (L. cinnabarina × C. Warneri) is also sent. The sepals and petals are flame-coloured, also the base of the lip, while the front half is rich claret-purple, with a deep yellow throat. It is exceedingly handsome, and the development of the flowers affords evidence of excellent culture.

Two good forms of Dendrobium nobile are sent from the collection of J. J. Holden, Esq., of Southport, by Mr. Hill. together with flowers of the pretty little Odontoglossum × Adrianæ and Cattleya amethystoglossa. The latter is said to have eight pseudobulbs and an inflorescence of sixteen of its handsomely-blotched flowers.

The flower of a pretty hybrid from Paphiopedilum × Sallieri aureum × hirsutissimum is sent by J. H. Haversok, Esq., of Tottenham. It is a form of P. × Erato, and has the dorsal sepal and petals densely spotted with dusky brown, and the apex of the latter suffused with purple. In fact the influence of P. hirsutissimum largely preponderates.

A curious form of Paphiopedilum insigne is sent from the collection of E. P. Collett, Esq., of Hale, in which the segments are unusually long, the dorsal sepal being also narrow and heavily blotched, and the lower part of the sepals suffused with brown. A flower of P. × Madiotianum (Chamberlainianum × villosum) is also enclosed.

Several interesting flowers are sent from the collection of J. J. Neale, Esq., of Penarth, by Mr. Haddon. Epidendrum polybulbon is a very pretty little rarity, of which a photograph is also sent, showing a neat little plant bearing over ninety flowers and forming quite a picture. The plant is grown in a pan suspended from the roof of the Cool Intermediate house, but was taken into the Warm house to open its flowers. A flower of the handsome Cymbidium Tracyanum is also accompanied by a photograph,

taken by one of Mr. Neale's sons, showing an inflorescence of eleven flowers. Oncidium is represented by flowers of O. tigrinum, O. Cebolleta, and O. maculatum, and Cœlogyne by C. speciosa and C. flaccida, the others being the charming little Odontoglossum Cervantesii, Masdevallia melanopus, Xylobium squalens, and Notylia aromatica. Afterwards came a spike of the brilliant Spiranthes colorata maculata, a spray of the pretty little Odontoglossum gloriosum, and a remarkably fine flower of O. Rossii majus, one of the few to which the name really applies, the flower measuring 3½ inches across its broadest diameter, and the lip slightly over 1½ inches broad—one of the finest flowers of it which we have seen. Lastly may be mentioned flowers of the rare and handsome Cattleya Lueddemanniana and Stauropsis gigantea.

A very interesting twin-flowered scape of Lycaste Skinneri is sent by Mr. R. Eichel, Eldwick, Bingley, and it would appear that it is not a mere accidental occurrence, for Mr. Eichel states that the plant has produced twin flowers for three years in succession.

A pretty light form of Odontoglossum × Andersonianum is sent from the collection of J. H. Grogan, Esq., Slaney Park, Baltinglass (gr. Mr. Cooper). A solitary spot occurs either on the lip or on one of the sepals, but otherwise the flowers are unspotted. A fine form of Paphiopedilum × nitens is also sent.

A flower of the pretty little Lælio-cattleya × Andromeda (L. flava ♀ × C. Dowiana aurea ♂) is sent by Messrs. Charlesworth & Co. It is larger than the seed parent, and has clear yellow sepals and petals, while the lip is yellow prettily veined with crimson, and increased in size.

A two-flowered inflorescence of the charming natural hybrid Dendrobium × Margaret, which was noted at page 124 of our 11th volume, is sent from the collection of the late F. A. Rehder, Esq., by Mr. Norris. It has been suggested as a hybrid between D. nobile and D. Bensonæ,and has the sepals and petals white, tipped with rosy purple, and the lip white with a yellow disc, and a ring of claret-purple somewhat broken up into radiating lines at the base. It is a charming hybrid, which we do not recognise among artificial hybrids. Flowers of a charming albino of D. nobile, purchased from Messrs. Hugh Low & Co. some years ago, are also sent, and these we should refer to D. nobile virginale.

A fine flower of the beautiful Paphiopedilum × Minos var. Youngii is sent from the collection of O. O. Wrigley, Esq., of Bury (gr. Mr. Rogers). This charming hybrid is figured on page 72 of the present issue, where further particulars are given. Mr. Wrigley also sends one of his own seedlings, raised between P. ciliolare ♀ and P. superbiens ♂, which must be referred to P. × Lachmee. The petals are strongly ciliate and beautifully spotted.

Cattleya Trianæ Westonbirt var., is a remarkably handsome form sent from the collection of Captain Holford, Westonbirt, Tetbury. It is large, of excellent shape, the petals being 3½ inches long by over three inches broad. The colour of the flower is mauve-purple, with the front lobe of the lip amethyst, and margined with lilac, while the whitish throat has a bright yellow blotch in the centre. There is also a flower of the beautiful Lælio-cattleya × Myra Charlesworth's var., having the front lobe of the lip reddish claret colour, and the rest of the flower deep yellow, and two good forms of Paphiopedilum × Hera. One of these has very large purple blotches on the dorsal sepal, and some dark marbling on the petals and lip, while the others have numerous small spots on the dorsal sepal, and the rest of the flower yellow, with some small brown spots on the petals. The flowers afford evidence of excellent culture.

DENDROBIUM MORTII.

A VERY distinct and remarkable Australian Dendrobium has just flowered in the Royal Botanic Garden, Glasnevin, which Mr. Moore states he got with D. linguiforme (*O. R.*, xii., p. 137, fig. 23), D. cucumerinum, and D. striolatum, three allied and equally remarkable plants. It is well figured by Fitzgerald under the name of D. Beckleri, F. Muell. (*Austral. Orch.*, i., pt. 7, t. 6), the author remarking that it grows occasionally on rocks, but more frequently on the topmost branches of "oaks" (Casuarina glauca) which stand in the beds of creeks, or by the densely crowded white-stemmed brush timbers of the "cedar scrubs" on alluvial flats and river banks. Its long straggling branches are often four feet long. Among cultivated species it can best be compared with D. teretifolium, but the flowers are mostly solitary, with the sepals and petals light yellow, and the acuminate crisped lip whitish with some lilac markings, and three very undulate green keels on the disc. On the base of the segments and on the spur-like chin occur some purple streaks and markings. The habit is peculiar, the stems being erect at the base and bearing stout terete leaves from three to five inches long, but beyond this they branch and become extremely slender, and the leaves are gradually reduced to as little as half an inch long. The flowers are an inch long. All these characters are well shown in the Glasnevin plant. I am not aware that the species has been previously cultivated in Europe. It is a native of New South Wales.

The species has been confused with an allied Queensland plant, which Bentham afterwards described as D. Bowmanii (*Fl. Austral.*, vi., p. 286), and Fitzgerald also alluded to the question without clearing it up. D. Mortii was described by F. Mueller in 1858-9 (*Fragm.*, i., p. 214), being based on a specimen collected on the Hastings River by Dr. Herman

Beckler, and dedicated to a distinguished N. S. Wales horticulturist. It was said to have narrowly lanceolate yellow sepals and petals, and a paler lip, which, unfortunately, was imperfect in the dried specimen. The author further remarked that with it grew another species or distinct variety having smaller paler flowers. Shortly afterwards the author added a second locality, Richmond River, Beckler (*l.c.*, ii., p. 93), and recorded the petals as spathulate-lanceolate, and the lip obovate-cuneate and crisped, which characters do not agree with those originally given, and Bentham thought they had been taken from a Queensland specimen. It was not until 1865-6, however, that Mueller mentioned the latter (*l.c.*, v., p. 95), when he added the localities Moreton Bay, Bersaker Range and Fort Cooper, but the plants from this region belong to D. Bowmanii. On this page (95) the author briefly mentioned a new species, D. Beckleri, as being known from the Clarence River, and this was afterwards described (*l.c.*, vii., p. 59), when it was recorded as having also been found on McLeay's River by R. D. Fitzgerald. This, on comparison, proves identical with the original D. Mortii, but not with the Queensland specimens afterwards recorded. The fact is the name D. Mortii was transferred from the N. S. Wales to the Queensland plant, and the former was then re-described under the name D. Beckleri. So far the species appear to be geographically distinct, but we are still without a clue as to what the second species or distinct variety mentioned by Mueller as growing on the Hastings River is. Perhaps some of our Australian friends can help to clear the matter up.

R. A. ROLFE.

POLYSTACHYA ENSIFOLIA.

A CURIOUS little botanical rarity has just flowered with Messrs. Sander & Sons, at St. Albans, which proves, on comparison, to be the above-named species, described by Lindley from dried specimens in 1862 (*Journ. Linn. Soc.*, vi. p. 129). It was originally discovered in Prince's Island, West Africa, by Barter, and a fruiting specimen which appears to be identical was afterwards discovered by Welwitsch, in Angola. The habitat of the plant which has just appeared in cultivation, is not stated, but it agrees with Lindley's original. The stem is erect, about a foot high, and bears several suberect linear-oblong leaves, about four to six inches long by four to six lines broad. The spike is erect and many-flowered, sometimes with a small branch at the base. The bracts are ovate and acuminate, a line or more long, and the flowers are yellow, as described by Barter, but of a rather tawny shade, and about four lines long. The side lobes are rather narrow and attached near the base of the lip, while the front lobe is obovate-oblong, bilobed at the apex, and a fleshy callus extends from base to apex. It does not appear to have been in cultivation before. R. A. R.

CATASETUM ŒRSTEDII.

A VERY interesting circumstance enables the female of another species of Catasetum to be identified, namely C. Œrstedii, Rchb. f. It had already been recorded by Reichenbach, in 1863 (*Walp. Ann.*, vi., p. 577), but the specimen being inaccessible, and the description utterly inadequate, there was no possibility of identifying it. The record briefly states :—"Ipse possideo pulchrum specimen Cataseti Œrstedii mixtis floribus Monachanthi. Labella hujus non adeo saccato galeata, uti vulgo solent, sed dilatato saccata, subretusa." There is no clue to its origin. Specimens of two supposed species of Catasetum, which were grown in the Hope Gardens, Jamaica, by Mr. W. Harris, and flowered in November last, have now been sent to Kew for determination by Mr. W. Fawcett, F.L.S., Director of the Botanical Department, Jamaica. One was immediately seen to be C. Œrstedii, Rchb. f., the other was a female, and there was naturally a very strong suspicion that it belonged to the same species, especially as it did not agree with any female of which material was available for comparison. There is, however, a fine dried specimen of a female Catasetum at Kew which was collected by Purdie, in July, 1844, at San Sebastian, in the province of Santa Martha, and the ticket records that living plants were sent home. No corresponding male was found in the collection, hence the species could not be determined. But in the collection of drawings there is a partly-coloured sketch by Fitch of a species which laid for many years undetermined until I recognised it as C. Œrstedii, Rchb. f., and on the back of the drawing is written "Syon House. August, 1845, Purdie. Santa Martha." This clearly indicates the origin of the plant from which the drawing was made, and the dried specimen in question also agrees with the female sent home by Mr. Fawcett, thus proving that all belong to C. Œrstedii. The species was originally described by Reichenbach in 1855 (*Bonplandia*, iii., p. 218), from plants which had been sent from Nicaragua, by Dr. Œrsted, which flowered in the Copenhagen Botanic Garden in August, 1850, and afterwards in the collection of M. Pescatore, of St. Cloud, near Paris, and at Berlin. Warscewicz had previously sent home dried flowers and a sketch. It grows also in Costa Rica, a flower having been sent to Kew for determination by "Eliza Steane," of Rickmansworth, from a plant brought by a friend returning from that country. The species is nearly allied to C. macrocarpum, but differs in having the mouth of the sac beautifully ciliate, and it is interesting to find that the same character appears in the female flowers, though the hairs are slightly shorter. In shape and size they closely resemble the female of C. macrocarpum, and the sepals and petals are rather broad. The colour appears to have been wholly green, though being sent in formalin one

cannot say more. In the males, however, sent in the same medium, the dark spotting is well shown. The female inflorescence has three flowers and the male eight. It is very interesting to be able to complete the history of the species, which is often seen in cultivation.

R. A. ROLFE.

STORING OF POLLEN.

IN experimenting with regard to the keeping of pollen I have hit upon the following idea which may be of use to hybridisers. I use gelatine capsules, the smallest size obtainable (Park Davis & Co.'s, used for medicinal purposes), and placing the pollen on a little slip of celluloid or composition label, enclose it in the capsule. The capsule if wetted round the rim before closing becomes hermetically sealed, and the number for identifying the pollen is written on one side of the piece of label, and can be read through the capsule. I enclose a specimen to show how the idea works. After tw months I have found the pollen fertile, and seemingly unchanged, and have no doubt it will keep a much longer time.

A. BROWN RITCHIE.

Whalley Range, Manchester.

[A very ingenious arrangement. The capsules are about $\frac{3}{5}$ inch long, with a $\frac{1}{4}$ inch lid, which slips over the other part as far as it will go. It would be interesting to know if wrapping the pollen in a scrap of blue paper (see page 292 of our eleventh volume) would increase its keeping properties.—ED.]

AERIDES VANDARUM AND A. CYLINDRICUM.

MANY readers of the *Orchid Review* will note with pleasure your illustration of Aërides Vandarum (p. 60, fig. 15), as the species has not been previously described in this work. It is to be regretted that such recently published works as the revised editions of *Sander's Orchid Guide* and *Orchids and their Culture*, should make the error of describing A. cylindricum as synonymous with A. Vandarum now that the true A. cylindricum is in cultivation. The latter was described and figured in the *Gardeners' Chronicle* (1895, i., p. 393 fig. 52), from a plant in the Tring Park collection, and the figure gives a faithful representation of the plant.

I am pleased to be able to send you flowers of the two species from the Hon. Walter Rothschild's collection, at Tring Park, where they grow and flower well, treated in the same way as Vanda teres.

R. WARRIOR.

NOTES.

Two meetings of the R. H. S. will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during March, on the 14th and 28th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

Meetings of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on March 2nd and 16th. The programme also announces a meeting for March 30th, followed by a "?". The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

Mr. F. W. Ashton informs us that on March 4th, 1905, he terminates his connection with Messrs. Stanley & Co. (late Stanley, Ashton, & Co.), and that on March 6th he enters the service of Messrs. Hugh Low & Co., Bush Hill Park, Enfield, as Orchid representative and traveller. We wish him success in his new sphere.

A photographic illustration of one of the Cypripedium houses of M. F. Lambeau, of Brussels, appears in the February issue of the *Revue de l'Horticulture Belge*, accompanied by a short article on the collection by M. Ch. Pynaert. M. Lambeau has thirteen Orchid houses, and is said to have a special predilection for Cypripedes, of which he has a fine collection, including many choice seedlings.

A view of a corner in the Winter Garden of the State Botanic Garden, Brussels, is given in the *Gardeners' Chronicle* for February 17 (p. 91), and shows a bed of Cypripedes in flower at the base of a large Aroid.

A number of the *Journal of the Royal Horticultural Society*, comprising Vol. xxix., parts 1, 2, and 3, and dated December, 1904, has just appeared, and among matter interesting to Orchidists we notice a paper on the Disease of Calanthes, by John Bidgood, B.Sc., F.L.S. (pp. 124-127). This "spot" disease is said to be "certainly of non-parasitic origin," and the remedy is looked for in rational cultural treatment. The report of the Orchid Committee is, as usual, profusely illustrated with blocks lent by the various horticultural journals, and the period from the beginning of the year to July 12th occupies twenty-eight pages.

We have received from the publisher of the *Gardeners' Chronicle* three large sheets representing illustrations of Odontoglossums which have appeared in that journal at various times, and were grouped together as described for exhibition at the great Orchid show at Dusseldorf, where they were awarded a Silver-gilt Medal. The figures are forty-six in number, and the effect is imposing.

A flower of Paphiopedilum × Shaferi, a pretty little hybrid between P. × Medeia and P. × Leeanum, is sent by Dr. Shafer, of Pittsburg, U.S.A. It was raised by Mr. H. Clinkaberry, gardener to C. G. Roebling, Esq., Trenton, N.J. Dr. Shafer remarks that it is a vigorous grower and profuse bloomer, a small plant having three flowers. Both parents were partly derived from P. Spicerianum, hence it is not surprising that it most resembles this species, with some traces of P. hirsutissimum in the colouring. Theoretically a cross between P. Spicerianum and P. × Alcides should yield a similar result. It is interesting to note that the flower arrived quite fresh after its long journey, the stalk being inserted in a small phial of water through a hole in the cork, and the bottle then firmly packed in a small box. The flower was probably young when packed, and as there was neither leakage nor displacement it arrived perfect.

Hybrids having the characteristics of Paphiopedilum × Lathamianum and villosum are becoming rather numerous, and one such has been sent from the collection of E. F. Clarke, Esq., of Teignmouth. It is labelled Sallieri × Spicerianum. There are also seedlings from Lathamianum × nitens, and it is feared that some of them may have been accidentally mixed, as the latter seems the more likely parentage, because the resemblance to P. villosum is so marked. The lateral sepals are free and spreading, but this may be an accidental character.

M. A. DE LAIRESSE.—We regret that the name of M. A. de Lairesse, of Liége, was included in our list of "Losses during the Year," given at page 3. We cannot account for the slip, but it should have read A. de Meulenaere, of Ghent. M. de Lairesse is not only able to point out the mistake, but to send us a most remarkable hybrid Odontoglossum, which is figured on page 81.

REGISTRATION OF NOVELTIES.—Dr. J. F. Shafer, of Pittsburgh, writes:—"I am certain that the value of the ORCHID REVIEW would be greatly enhanced by adding a Department of Registration, in which all new species or hybrids introduced should be recorded and described, and a Certificate given to the introducer, stating clearly the name. This would in time correct the unfortunate complications which have arisen from giving different names to the same species or crosses." This we have long had in view, and it will follow naturally with the completion of the *Orchid Stud-Book*, and we hope now to be able to accelerate the printing of this work. We can speak feelingly about the "unfortunate complications" which have retarded progress. In fact the parents of many hybrids are wrongly recorded or not given at all.

ORCHID PORTRAITS.

ANGULOA CLOWESII.—*Journ. Hort.*, 1905, i., pp. 156, 157, with fig.
BULBOPHYLLUM CRENULATUM, Rolfe.—*Bot. Mag.*, t. 8000.
CALANTHE × CHAPMANII.—*Gard. Mag.*, 1905, p. 87, with fig.
CŒLOGYNE CRISTATA (dimerous).—*Gard. Chron.*, 1905, i., p. 101, fig 47.
CYMBIDIUM SANDERI.—*Gard. Chron.*, 1905, i., p. 115, fig. 49; *Gard. Mag.*, 1905, pp. 134, 135, with fig.

CYPRIPEDIUM (PAPHIOPEDILUM) GRATRIXIANUM.—*Gard. Chron.*, 1905, i., pp. 76, 77, fig. 35.

CYPRIPEDIUM × HONNORIÆ.—*Gard. Mag.*, 1905, pp. 133, 134, with fig.

CYPRIPEDIUM × LEEANUM J. GURNEY FOWLER.—*Gard. Chron.*, 1905, i., p. 88, with suppl. fig.; *Garden*, 1905, ii., p. 105, with figs.; *Gard. Mag.*, 1905, p. 87, with fig.

CYPRIPEDIUM TRACYANUM.—*Gard. World*, 1905, p. 159, with fig.

CYRTOPODIUM PUNCTATUM SAINTLEGERIANUM.—*Journ. Hort.*, 1905, i., p. 91, with fig.

DENDROBIUM FIMBRIATUM OCULATUM.—*Journ. Hort.*, 1905, i., pp. 134, 135, with fig.

LÆLIA ANCEPS SCHRŒDERIANA.—*Gard. World*, 1905, p. 137, with fig.
MILTONIA VEXILLARIA.—*Journ. Hort.*, 1905, i., p. 113, with fig.
VANDA WATSONI, Rolfe.—*Gard. Chron.*, 1905, i., p. 123, fig. 52.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

F.L. Your Cattleya × Ingramiæ (Eldorado × Dowiana) is very good, and we shall hope to receive the promised flower.

L.C. We will deal with this question shortly.

W.H.S. The Odontoglossum, which came in an importation of O. crispum, is O. × Andersonianum, the natural hybrid with O. gloriosum. It is remarkably variable.

E.F.C. No trace of parasitic fungi can be found in the Lælia roots, and we are unable to suggest a cause for their decay, unless the compost is in an unhealthy condition.

J.R. We do not know the cause of the postal restrictions you mention, and will try to ascertain.

E.O.O. The photographs represent forms of Odontoglossum × Andersonianum, which is remarkably variable. The question is fully discussed in our first volume (pp. 172-174). The other questions are unavoidably postponed. Your Cattleya hybrid is new, and the name chosen is free, but we must postpone the record till next month.

Photographs received with thanks: F.L., H.H, De B.C., J.H.C., F.C., E.O.O.

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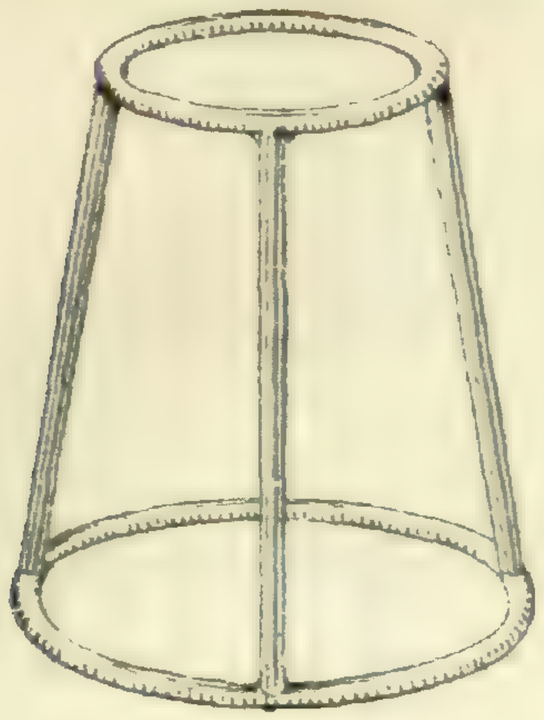

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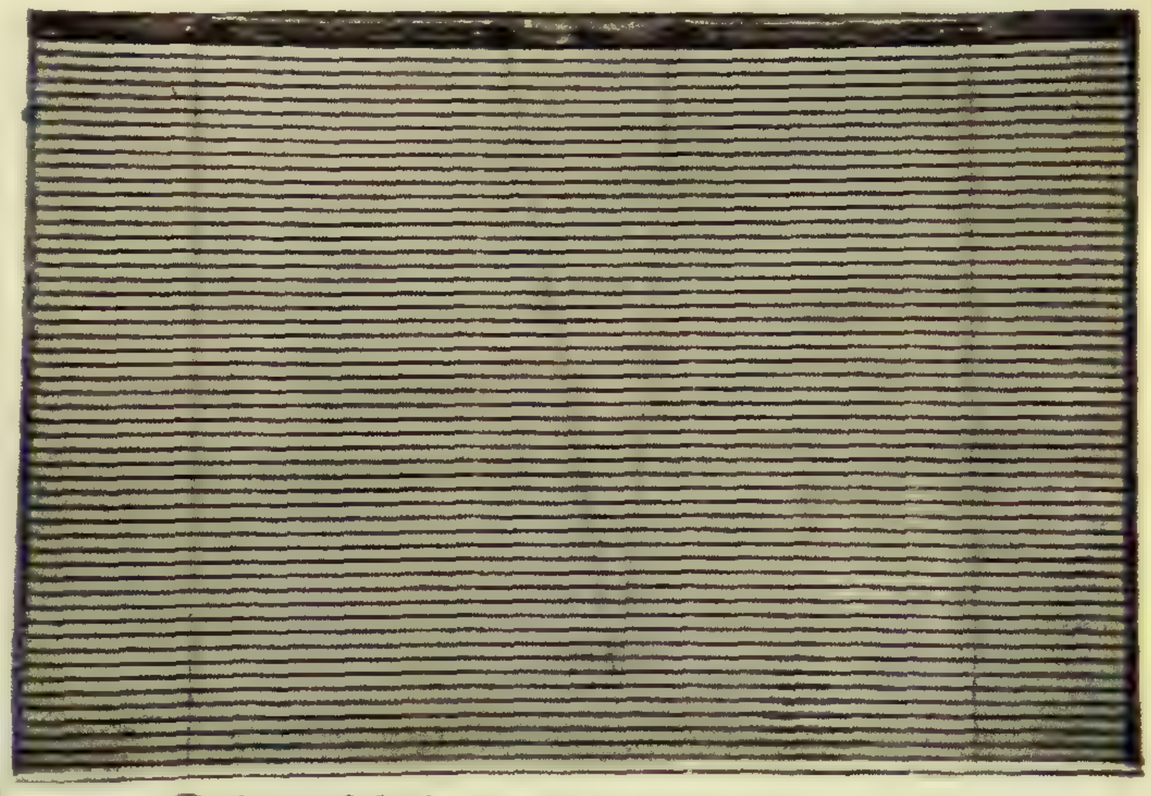

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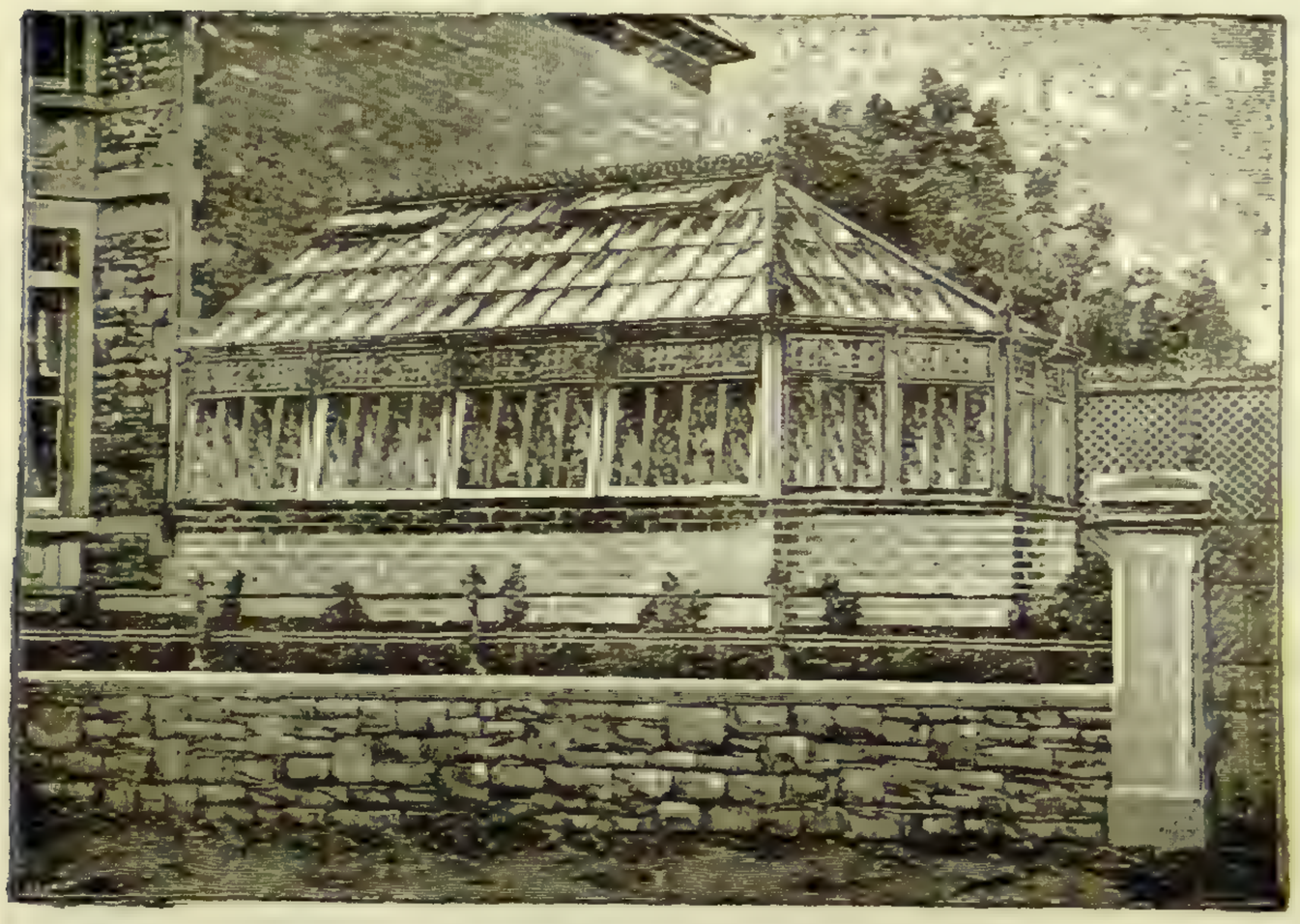

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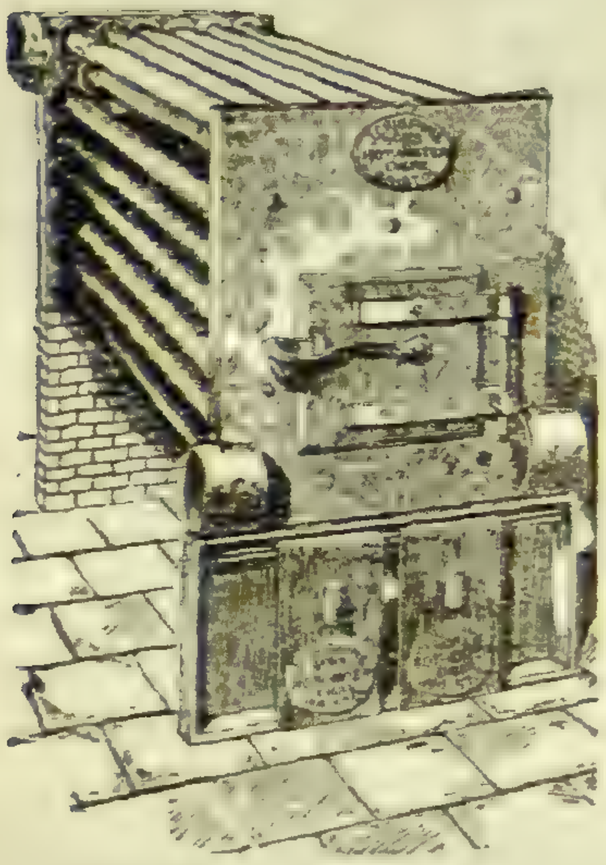

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THE ORCHID REVIEW:

An Illustrated Monthly Journal of Orchidology.

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THE ORCHID REVIEW.

VOL. XIII.] *APRIL*, 1905. [No. 148.

ORCHIDS.

A VERY interesting lecture on "Orchids" was given before the Redhill and Reigate Gardeners' Mutual Improvement Society on March 14th, by Mr. J. M. Black, gardener to R. G. Thwaites, Esq., Chessington, Christchurch Road, Streatham, a report of which we have much pleasure in publishing.—ED.

A FEW weeks ago I had the pleasure of reading a book called "A Gardener's Year," by Rider Haggard, in which the following passage occurs (page 179):—"Orchids are without doubt the great greenhouse plants of the future, as, considering their infinite variety, surpassing beauty, lasting qualities, and the ease with which most of them can be cultivated, given a little intelligence and a natural affection, they certainly deserve to be."

That sentence, coming from so serious an observer as the famous novelist, is one which gardeners would do well to bear in mind.

There are very few gardens at the present time which do not contain a few Orchids, and wherever there are a few, and an Orchid enthusiast as gardener, there is great hope that the few may be the nucleus of a famous collection in the future.

One often hears the remark that there is, after all, not much to look at in Orchids, and that it seems absurd for anyone to give such high prices for them as are sometimes given. Now the probability is, that if the critic who speaks thus disparagingly of Orchids were induced to try a few, and found that the plants thrived with him, he would very soon have a few more—and a few more after that. He would soon begin to discover the difference between a good flower and an indifferent one, and, let us hope, would become a willing recruit to the large army of clever amateur Orchidists. His collection would grow up and his knowledge of Orchids with it.

If, on the other hand, this same beginner had been disappointed with his first purchases doing badly, he would probably have gone back to his scepticism, and thereby have lost a hobby of inexhaustible interest, and one which would last a lifetime.

It is in the first steps that the adventurer in Orchids needs encouragement; only let him get to know the plants and their moods, and the Orchids themselves will keep his interest alive ever afterwards.

If a gentleman purchases a few Orchids, or, as sometimes happens, a friend presents him with a few, it will depend very largely on the gardener whether the collection remains at that, or whether it develops. It frequently happens that from a modest and almost accidental beginning, the Orchids become the dominant feature in the garden, and the share which the gardener takes in this revolution is greater, perhaps, than in some quarters, would be readily admitted.

A gentleman may have a great number of Orchids in his greenhouses, and yet not be in any sense an Orchidist.

I should define the term Orchidist, as I use it here, to be a gentleman who makes Orchids his hobby, or one of his hobbies; he has a discriminating taste, and he keeps in touch with novelties. As a rule he is a specialist who takes up one, two, or three of the genera and makes them his special favourites, and his study. The gentleman Orchidist is not very often a grower, nor yet does he need to be; but he very soon becomes expert in detecting whether his plants are doing well or not.

The Orchid grower must, besides knowing something of varieties and their value, be able to grow and propagate the plants under his charge, and he should also endeavour to gain a knowledge of the fascinating work of raising them from seed, with all its wonderful possibilities.

Although Orchids have been grown for a great number of years, it might safely be said that it is only during the last 15 or 20 years that they have lost their exclusiveness, and at no period in their history have they ever been so popular as at the present moment. It follows, therefore, that while a great many of the younger generation of gardeners have had facilities of gaining a special and intimate acquaintance with Orchids during their early training, a large number of gardeners whose probation was passed at an earlier period have had no such opportunities; so that, while the latter may be excellent men in other branches of gardening, circumstances are to blame for their not being perhaps in touch with our favourites. A good gardener, however, is never happier than when tackling a difficult or unknown subject, and I believe I should be within the mark by saying that some of the finest grown Orchids in the country are grown by men who have had no experience or training under expert teachers, but who succeed, nevertheless by using common sense and their good gardening instinct.

The best teacher in the cultivation of Orchids, as in every other branch of horticulture, is experience, practical experience with the potting stick and the watering-can—practical experience of many seasons. Valuable

assistance to the progressive-minded Orchid grower can be gleaned from the many excellent calendars which appear in the gardening papers. but the reading must be done in conjunction with practice if any real good is to be the outcome.

Speaking of reading, I may say that my experience of the Reviews of places which appear in the Horticultural Press from time to time prove, on investigation, to be nearly always exaggerations—or, at least, that is the impression they convey to me. That they are written in good faith I do not question in the least, and that it is courtesy to say the best possible when writing up a place cannot be questioned. But these reviews are at times misleading, and they may even be harmful to the innocent. stay-at-home reader by shaking that confidence in himself which is so necessary to success.

When I read that certain plants potted in some special compost are doing splendidly suspended near the glass, I do not know whether they are any better than, if as good as, plants which I, or someone else, may have in quite another compost, and standing on the staging. There is no means of making a comparison, and this must always be a drawback in arriving at a conclusion from written instructions. A channel of education for the practical Orchid grower which, in my opinion, is not nearly so much taken advantage of as might be, is the mutual exchange of visits between growers. There are very few places inaccessible—the best known and probably the best grown collections certainly are not. There is nothing like a visit to a good collection to stimulate and teach. One sees the plants at home, and feels and smells, so to speak, the conditions in which they are growing, and these conditions—if the result seen warrants it—can be readily copied at home. There are few places that do not repay a visit, even if, as sometimes happens, the teaching received be of a negative kind.

Exhibitions do not teach how to grow; they educate by showing what can be done, but they do not tell us how to do it. We see the finished article; we do not see it in the course of construction.

One of the reasons, if not the chief reason, of the increasing popularity of Orchids may be found in the wonderful advancement which has taken place during the last ten years in the raising of Hybrids. There is now a wealth of material to choose from in forming a collection undreamed of a few years ago. One has only to visit any of the R.H.S. meetings to note the preponderance which hybrids have over species, in the groups and amongst the plants put up for Awards.

Constitutionally the hybrid can claim undisputed superiority over the species. Anyone who has grown Cattleya species of the labiata section for a number of years knows that there is some difficulty in keeping them up to the flowering standard, and this difficulty is especially felt by those who

have to grow these plants in the neighbourhood of large towns, and it is only by propagating by division that the stock can be kept anything like vigorous.

While some may differ as regards the comparative beauty of species and Hybrids, no one who has grown the two side by side is in any doubt which is the easier to grow. All hybrids, however—even to some of us who are fond of them—are not beautiful, and may be said to compare badly with their parents. There are a good many of mong l appearance, productions which cannot commend themselves to Orchid lovers, and the process of weeding out will have to be called into requisition at an early date to free us of the undesirable among Hybrids. Indiscriminate crossing has been the cause of a lot of those bad productions, and some species being constitutionally good parents, *i.e.*, whose seed germinates freely, have readily lent themselves to being raised in great numbers. One such is Lælia cinnabarina.

I have not seen many Hybrids with L. cinnabarina as one of its parents which I personally care for ; one of its great defects is that the lip will not open properly, and the whole flower is usually flabby and spidery. And yet look at the number of cinnabarina crosses we see. But the colouring is usually bronzy-yellow, a pleasing and rare colour, and no doubt secondary hybrids from these crosses will give us some good things, and the colour is worth following up.

It is for us to-day who still keep making an effort to produce something good to profit by the work of those who started ahead of us.

(*To be continued*).

DENDROBIUMS FROM STREATHAM.

A BEAUTIFUL series of Dendrobiums is sent from the collection of R. G. Thwaites, Esq., of Streatham (gr. Mr. Black). Eight flowers of D. × Blackianum (Findlayanum × Wiganiæ) are so remarkably diverse that it would seem incredible that all could have come out the same pod, were not other similar cases known. Two of the forms have bright rosy purple sepals and petals, the first with a deep maroon disc surrounded by a yellow zone, and the next with a much lighter maroon disc. Three others have much paler tips to the segments, and of these one has a rich maroon disc surrounded by a yellow zone; the second has a small light maroon disc surrounded by a much larger yellow area ; while the third has no yellow, and thus the disc is rich purple crimson rather than maroon. The remaining three have nearly white sepals and petals, with just a faint trace of pink at the tips, and in one of these the purple disc is reduced to a few partially confluent radiating lines on either side, while the other two have a well

developed yellow area and a dark maroon disc. D. × Wiganiæ xanthochilum and D. × Thwaitesiæ are charming things which have already been described, and D. nobile murrhiniacum is a very fine flower of a well-known variety. One called D. × Owenianum Thwaites var. is a pure white form of good shape, with a dark maroon disc to the lip. Four flowers of D. × Cybele elegans are very handsome ; form, substance and colour being excellent, while three of them measure 3½ inches across the petals. D. × Cybele Ballianum is a charming flower, obtained from D. nobile Ballianum × Findlayanum, and it most resembles the latter, having only a few radiating purple lines on either side at the base of the lip.

D. × CHESSINGTONENSE (D. × Wiganiæ × aureum) is a large and very richly coloured hybrid, which received an Award of Merit from the R.H.S. on March 14th. The flower measures 3¼ inches across its broadest diameter, and the colour is bright yellow, with a large feathered blotch on the disc recalling that of D. × Ainsworthii in shape, but the colour is reddish maroon. It is a most handsome hybrid, and we think it unsurpassed among yellow-flowered hybrid Dendrobes.

ODONTOGLOSSUM HYBRIDS AT WALTON GRANGE.

AN interesting article on the Odontoglossums in the collection of William Thompson, Esq., Walton Grange, Stone, appears in the last issue of the *Gardeners' Chronicle* (p. 180), from which we make a few extracts as to the raising of Odontoglossum seedlings. Profiting by the experience during long trials, which at first ended in failure, Mr. Stevens has now thousands of seedlings, of many interesting crosses. The seeds are sown on the surface of the potting material in which other plants are growing, and they succeed in several houses, but the greatest and most rapid success has been attained in a small sunk house in which a cool, moist atmosphere always exists.

On the staging of this house are large numbers of newly-imported O. crispum potted up in the usual manner, and kept constantly moist. These are used as foster parents, the seeds being sown on the imported pseudobulbs and rhizomes, and in a less degree on the surface of the pots, and invariably the first to germinate are those on the bare moist pseudobulbs. Later on those on the peat germinate, and lastly those on the sphagnum. And these differences in the surface on which the seeds are sown give other results, for it is said that those germinating on the pseudobulbs are the most likely to be reared, those on the crocks and peat come next, and those on the sphagnum moss last, their constitution being more delicate from the first.

The next object is to prick off the tiny seedlings into dwarf thumb or

thimble pots, a dozen or so in each, and these pots are then placed in batches of two dozen in shallow wooden boxes, about twice as deep as the pots, and with holes in their sides for ventilation. Squares of glass are placed over the boxes, which are then stood on a narrow shelf within a foot of the glass roof, and always kept cool and moist. When a quarter of an inch high, or before if necessary, the little plants are potted either singly or three or four together in thimble pots, and returned to the glass-topped boxes until they have got over the shift, when they are gradually acclimatised to the air of the houses.

In the main seedling house there are thousands of seedlings, including nice little plants of the beautiful Odontioda × Vuylstekeæ, which caused such a sensation at the last Temple Show, and a few other crosses between Cochlioda Nœtzliana and Odontoglossums. There are also crosses between a fine form of C. vulcanica and Odontoglossum, and numerous seedlings between fine spotted forms of O. crispum, O. Hallii, O. Harryanum, the gigantic O. maculatum Thompsoni, and the best types procurable.

From the house mentioned the seedlings have overflowed into another cool sunk house, which is now three parts full, from small seedlings up to those which have reached flowering size. Of these details are given, as also of the collection generally. And thus is perseverance now reaping an ample reward.

GENYORCHIS PUMILA.

A COLOURED plate of this curious little Orchid is given in the last number of the *Revue de l'Horticulture Belge* (p. 61), from a plant introduced from the Congo district which recently flowered at the Brussels Botanic Garden. It may be said to combine the habit of a small creeping Bulbophyllum with the floral structure of Polystachya, in fact in 1891 it was described under the name of Polystachya bulbophylloides (Rolfe in *Kew Bull.*, 1891, p. 199). It has precisely the floral structure of Polystachya, and the reason given for making it into a new genus is that it has short petals and a basal inflorescence. The genus was made by Schlechter in 1900 (*Westafr. Kautschuk-Exped.*, p. 280). The plant has been known for nearly a century, having been originally described by Swartz in 1806, as Dendrobium pumilum, and afterwards transferred to Bulbophyllum, with some doubt, by Lindley, on account of its similar habit. Lindley remarked:—"This singular little species has flowers like miniatures of Aconitum Lycoctonum. For petals there are only two minute rudiments; the lip resembles that of some Polystachyas, and the column has two deep, fleshy, purplish cheeks." It is a native of Sierra Leone, the Camerons, Niger Delta and the French Congo, and is an interesting plant for a botanical collection.

R. A. R.

PAPHIOPEDILUM FAIRRIEANUM AND ITS HYBRIDS.

By Francis Wellesley and R. A. Rolfe.

(*Concluded from page 73.*)

P. × Minos is a very variable hybrid, and there are three other named varieties which may be briefly mentioned. The Walton Grange variety received an Award of Merit from the Manchester Orchid Society on November 25th, 1897. It has a large green area to the dorsal sepal, covered with numerous small brown spots, and outside this extends the broad white margin, the petals being also spotted with brown to near the apex. Gratrix's variety also received an Award of Merit on March 6th, 1902, but we do not find any description. Lowii is said to be a very attractive thing, in the way of Youngii, both as regards form and colour, but is a much smaller flower.

P. × Mary Lee was derived from P. × Leeanum and P. × Arthurianum, the former being recorded as the seed parent. It was shown by Mr. W. Lee, of Audenshaw, Manchester, at a meeting of the R.H.S. on November 28th, 1893, under the name of Cypripedium × Mary Lee, and received an Award of Merit. Its parentage may be described as half insigne and a quarter each Fairrieanum and Spicerianum, and it, therefore, naturally favours the first named. The dorsal sepal is white, shaded with green at the base and spotted with purple; the petals flushed with green and purple, and the lip similarly coloured. The C. × Jamesonianum exhibited by Thomas Statter, Esq., at a meeting of the R.H.S. on February 11th, 1896, must be considered as a form of the same. In this case Arthurianum is recorded as the mother plant.

We have to wait nine years for the next hybrid from Arthurianum. On February 25th, 1902, a most attractive flower, named C. × Argo-Arthurianum, was brought to the meeting of the Royal Horticultural Society by its raiser, Mr. H. J. Chapman, gardener to R. I. Measures, Esq. The dorsal sepal is finely spotted, and the whole flower distinctly favours Argus, which was the seed parent.

P. × Imogene is a remarkably fine hybrid acquired from Messrs. Charlesworth & Co., and is now in the Westfield collection. The pollen parent was P. ciliolare. The dorsal sepal is densely spotted with reddish crimson, with the margin of an attractive cream colour, and the petals are purplish crimson, spotted with reddish crimson. The whole flower, indeed, bears a most marked resemblance to the hybrid known as Sir Redvers Buller, and this is not remarkable, because both are descended from insigne and ciliolare, but in the case of Imogene the third parent was P. Fairrieanum, while in that of Sir Redvers Buller it was P. Lawrenceanum.

P. × Laura is an extremely promising hybrid raised in France, it is believed, by the late Monsieur Bleu, the pollen parent having been

œnanthum superbum. It closely resembles the very beautiful variety of Baron Schröder figured at page 42. Two seedlings only were raised, and neither flowered in the lifetime of the raiser. In 1903 both plants passed into the Westfield collection, one being then in flower; neither plant, however, has flowered since. An analysis of parentage shows half insigne, one-fourth Fairrieanum, and one-eighth each barbatum and villosum.

Finally there is an unflowered seedling, derived from Arthurianum × insigne Sanderæ, in the Westfield and possibly some other collections.

Fig. 22. PAPHIOPEDILUM × NORMA.

P. × NORMA was the first of the P. × Niobe hybrids, and was raised by Mr. Seden. The seed parent was P. Spicerianum, and it is therefore twice descended from that beautiful species. It was first shown on January 15th, 1895, when it received an Award of Merit from the R.H.S. The variety in question is here figured. Mr. Seden also raised for Messrs. Veitch another form, now known as the Westfield variety. This, too, is figured, and a comparison of the two forms will show how greatly the later variety

eclipses the original seedling. The Westfield variety of Norma may be considered as the best of the hybrids from Niobe—its dorsal sepal is perfection, both in form and substance, the broad white margin contrasting admirably with the rich purple and emerald green markings. The strong resemblance to P. Spicerianum in both the forms figured will, of course, be apparent, and this is precisely what would be expected, for that species is represented in the hybrid to the extent of three-fourths, while the influence of the Fairrieanum grandparent can only be traced with some difficulty.

Fig. 23. Paphiopedilum × Norma Westfield var.

P. × Priam, a seedling from P. insigne Chantinii, came next, being exhibited by Messrs. Veitch on November 20th, 1900, when it received a First-class Certificate from the Royal Horticultural Society. The voting, according to the Society's *Journal*, was 8 for and 5 against, so that under the present rule the F.C.C. would have been lost. It was described as "A fine large flower, the upper sepal being white with a green base and some purple lines; petals and lip yellowish tinged with purple." This is probably the most sensational of all the Fairrieanum hybrids. Only a single seedling

was raised, and this, after gaining the F.C.C., passed into the possession of Messrs. Charlesworth & Co., who sold the plant to the late Mr. Robert Tunstill, of Monkholme, for, we are informed, the sum of £120. Mr. Tunstill preserved his purchase intact, and after his early and much lamented death this unique plant was sold by Messrs. Protheroe and Morris on April 1st, 1903, for the sum of 200 guineas. It then consisted of 7 growths, old and new, and we believe that since the date of the sale a single growth has found a ready purchaser for as much as 85 guineas.

Mr. Seden also crossed Niobe with insigne Sanderæ, and on January 24th of this year Messrs. Veitch exhibited before the Royal Horticultural Society a light-coloured form of Priam, called Leuchas. A second seedling followed in February, which is now in the Westfield collection. Unlike the original hybrid, which favours insigne, Leuchas bears a most marked resemblance to Niobe. The same cross has also been raised in the United States by Mr. Clinkaberry, who named it Admiral Dewey.

Mr. Clinkaberry has also raised a hybrid between Niobe superbum and orphanum Roebling's variety, known as Abraham Lincoln. We have not seen this in flower, although a division from a flowered plant (acquired from Messrs. Sander & Sons) is also at Westfield. It has been described as "A magnificent hybrid of American origin, and one of the very finest Cypripediums known."

A hybrid named C. × Pelops (javanico-superbiens × Niobe) is recorded in the *Chronique Orchidienne* for May, 1899 (p. 229), as having been raised by Mr. Oakes Ames, but we know nothing further concerning it beyond the description.

In the Westfield collection there are three seedlings as yet unflowered :— (1) Leeanum giganteum (Balls' variety) × Niobe, (2) Haynaldianum × Niobe, and (3) philippinense × Niobe. Unfortunately, hybrids from Niobe will always be very rare, for the reasons so clearly stated by Mr. Reginald Young (*Orchid Review*, xii., p. 58). Experiments at Westfield bear testimony to the accuracy of Mr. Young's statements concerning the unfertility of Niobe pollen. The result of the other part of the experiment, however, will be awaited with interest, for if P. × Niobe can be successfully used as the seed parent there may yet be something interesting to record. In every one of six cases where Niobe was used as the seed parent capsules were formed, which were apparently sound. If only Fairrieanum pollen were again available it would be worth while to try it on P. × Niobe, or on any of the other primary hybrids of this much desired species.

There now remain the two remarkably diverse secondary hybrids from P. × Baron Schröder, known as Thalia and Little Gem, and in each case we are able to give an illustration. Both were raised by the pioneers of Orchid hybridisation, Messrs. James Veitch and Sons.

P × THALIA (fig. 24) is an extremely beautiful hybrid obtained from P. insigne Chantinii as the seed parent. It was exhibited at a meeting of the R.H.S. on November 4th, 1902, and received an Award of Merit. It was described as a very handsome hybrid, having an orbicular white dorsal sepal, lined and spotted with dark purple, and the petals and lip yellow marked with purple brown. The variety punctatum, here figured

Fig. 24. PAPHIOPEDILUM × THALIA PUNCTATUM.

is much more heavily blotched than the original form, and is now in the Westfield collection. A glance at the figure given on page 42 will show how largely it has retained the characters of its distinguished pollen parent. It is curious to note that P. insigne occurs twice in the ancestry of this hybrid, while the influence of Fairrieanum barbatum, and villosum should have been reduced by one-half.

P. × LITTLE GEM is said to have been a seedling from P. × Harrisianum, and it flowered for the first time in 1903, being exhibited at a meeting of the R.H.S. on April 21st, and again on October 27th. On the first occasion it was remarked in these pages :—"The flower is of good shape, the dorsal sepal white, flushed with rose, and having feathered chocolate-purple lines, the petals broad and somewhat similar in colour, and the lip purple-brown. The plant is at present small, but is likely to develop into a handsome thing." It is now in the Westfield collection, and has not flowered since, having been rested. Messrs. Veitch have flowered three other seedlings from the same cross, but they bear scarcely

Fig. 25. PAPHIOPEDILUM × LITTLE GEM, WESTFIELD VARIETY.

any resemblance to the original. On the contrary, they favour Harrisianum superbum to a remarkable degree. The name Westfield variety has been given in order to distinguish it from the other forms mentioned. The dorsal sepal is white, flushed with dark rose, and the markings chocolate purple, the petals being similarly coloured, and the lip purple brown. In this hybrid the influence of Harrisianum superbum is brought in, through œnanthum superbum, for the second time, which may account for some of the peculiarities pointed out. It will be interesting to see what the flower is like when the plant becomes strong, as it was a tiny seedling when it first flowered.

CALENDAR OF OPERATIONS FOR APRIL.

By John Mackay, The Gardens, Highbury, Birmingham.

The temperatures of the Cool house for April should be as follows: 60° by day; with sun, 65°; by night, 55°; morning, 50°. The figures mentioned should be maintained as nearly as possible, freely admitting air through the ventilators in accordance with the outside conditions, and keeping a regular supply of moisture on the paths, stages, and other surfaces, by damping down morning, noon, and night. Very little fire heat will now be necessary in this house, but sometimes the nights are cold, and then it is best to have the pipes warm in order to maintain ventilation. The re-potting of Odontoglossums and others of the same type should now be finished, and no more done till early autumn; otherwise, as the hot weather sets in, much shrivelling of the pseudo-bulbs will occur. The re-potting of other cool Orchids should be pushed on wherever necessary, and be careful to shade all the plants from bright sunshine.

The temperature of the Intermediate and Cattleya houses should be 65° by day; with sun, 70°; night, 63°; morning, 60°. The plants in these houses, too, should now be shaded during the day in bright weather, and full attention paid to ventilation, always being watchful during changeable and trying weather. See that the atmosphere at the same time does not lack moisture: damping down three times a day will not be too often as a general rule. Re-pot any of the plants requiring it before the new growth is too far advanced, or the new roots get too long, which then results in an unnecessary check. The Mexican house should be kept at the same temperature as the last named, but, of course, using no shading now, and very little at any time. The sun runs the mercury up to a high degree during the day in bright weather, and this warmth must be tempered by large quantities of air, and frequent damping down. The East Indian and Dendrobium houses should be kept at 73° by day; with sun, 83°; night, 68°: morning, 65°. These houses will also require shading, and a very moist atmosphere kept up. Be careful not to over-water the Dendrobiums just as they start into growth. As stated last month, these figures are intended only as a guide; temperatures will vary according to outside conditions, and except for the Cool house, I do not advocate a rule of thumb, cut and dried temperature: but, at the same time, it is not advisable at this season to let it fall much below the figures recommended, or the young growths may receive a check.

Now is a good time to re-pot Cœlogyne cristata and others that have done flowering. These plants grow and thrive for a very long period without being re-potted or top-dressed, and where a large quantity is grown a few only should be potted annually; in this way no great loss of flowers

results. The plants selected for re-potting should be turned out of their pots or baskets and carefully divided, each separate growth having four or five pseudobulbs and as many roots left as can be saved. Select suitable receptacles, which should be well drained to within three or four inches of the rim, placing over this a good layer of sphagnum moss. The compost should consist of one-third each of fibrous peat, loam, and sphagnum moss, with the addition of coarse sand or finely broken crocks. A commencement should be made in the centre, working in the different growths and sufficient compost at the same time; allow each a fair amount of room in which to grow, otherwise they will soon become crowded again. When the plants are finished, give a good supply of water to settle the compost about the roots, and allow them to go for some time before giving more. They should, however, be syringed overhead two or three times daily on bright days. A suitable position is the coolest and most shaded part of the Cattleya house, or one where similar conditions can be obtained. When the roots have taken a good hold of the compost they may receive the treatment of those that have not been disturbed. with the exception that the waterings should not be too frequent, and as the growths advance and the young bulbs become visible, a light application of weak liquid manure may be given with advantage twice a week.

Cattleyas are, perhaps, on the whole, the most beautiful of all Orchids; and this, together with their easy cultivation, causes them to take no secondary place in popularity. They are, comparatively speaking, cool-growing Orchids, requiring only an intermediate temperature to luxuriate. Cattleyas of the labiata group are to be had in bloom most months of the year. C. Percivaliana is the first to bloom, and opens its lovely flowers with richly-coloured lip in January. This species should be re-potted now, and should be grown so as to get the maximum amount of sunshine, otherwise it will not bloom satisfactorily, although free enough to form flower sheaths. After re-potting, however, it is best to keep them a little shaded until re-established. C. Trianæ then follows, and these make a grand display when in the pure air of the country. C. Trianæ flowers from February to April, and is a most variable species. Some varieties vie in size and beauty with any of the labiata section, though it is true there is a large percentage of inferior varieties among them—perhaps larger than in any other—consequently good varieties of Trianæ should receive special care, as they are always valuable. As a rule, the stronger the plant is grown and growth matured the more colouring matter is present in the bloom. Cattleya Mendelii and C. Schröderæ are the next to open, and these last through April and May; and then comes C. Mossiæ, which lasts through June. In July and August C. Warscewiczii (gigas) and C. Gaskelliana are conspicuous. I have stated in former Calendars that C. Warscewiczii and its varieties should be grown

with the Mexican Orchids or in some similar place, and given water sparingly until the new growths are three or four inches high. This species on the whole is a shy bloomer, and even under this treatment misses flowering sometimes. C. Gaskelliana should either be potted now or left until after flowering. I prefer the present time. Then come, for September, the beautiful Cattleya Dowiana and its variety aurea. It is much better to grow this species warmer than most others during the winter months, or the plants will suffer. They are either given a place at the warmest part of the Cattleya house or in another house where the temperature averages five degrees higher, and if they are suspended near the glass roof, so much the better. This treatment suits C. Lawrenceana, which is now becoming very rare; it flowers in April and May, and this species is best grown during the summer with the Dendrobiums. C. Eldorado is another wanting a little extra warmth during the winter, and is grown in the summer with the last named, as are also, C. Lueddemanniana, C. superba, C. Aclandiæ, and C. Rex. For C. Dowiana this extra heat is not so essential, and it may be grown at the warmest end of the Cattleya house; but should a plant be late in starting, or in a weak state of health, I recommend that it should be grown in heat until it has recovered. C. intermedia, Lælia × elegans, and any garden hybrids owing parentage to either, are also better for a little extra warmth during winter than the ordinary Cattleya house affords, as these plants are generally more or less in growth. So is L. purpurata, but for this more heat is not necessary, as it is a more hardy-growing species. L. superbiens should be grown with its allies in the Mexican house.

Odontoglossum citrosmum having been well rested throughout the winter will be pushing flower spikes from the centre of the new growths, and the plants so doing may be given more water and suspended from the roof. Protect the spikes from wood lice and other pests by placing a small piece of cotton wool round the base. The lovely, winter-blooming Lycaste Skinneri may be repotted when flowering is over. This species does well potted in equal parts of peat and moss, about every two years, and it is necessary to be careful when watering—it is safest to keep it on the dry side rather than to over-water, even when in full growth, for if kept too wet a disease in the form of spot ensues, which quickly reduces the vitality of the plant, besides disfiguring it. It is best grown in the Intermediate house.

Epidendrum vitellinum is a general favourite, but is very often grown too warm. I know of no exotic Orchid so fond of the coolest part of the Cool house as this. It may be repotted in the usual compost, and if not done now must be left until flowering is past at midsummer. I prefer the present time.

ODONTOGLOSSUM CRISPUM FROM SEED.

THE beautiful seedling Odontoglossum crispum var. William Stevens, figured at page 48, has roused considerable interest, and we have now received a photograph of another seedling of quite a different character, from the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks, which is here reproduced (fig. 26). The sender describes it as "the most interesting crispum yet raised, being the first one to be shown as a result of attempting to produce a blotched crispum by hand." The attempt was made by crossing a good round unspotted crispum with the pollen of the handsome blotched variety Crawshayanum (which is figured on the opposite page), and the result is an unspotted crispum of poor shape. It was exhibited at

Fig. 26. ODONTOGLOSSUM CRISPUM SEEDLING.

a meeting of the R.H.S. on March 10th, 1903 (*O.R.*, xi. pp. 114, 327). Although a very interesting plant, Mr. Crawshay spoke of it in somewhat disparaging terms, remarking that a worse form of crispum could hardly be expected, but we hope that its origin, if not its actual merits, will secure it a permanent place in the Rosefield collection. The photograph shows the inflorescence at its second time of flowering, when it carried nine blooms, so that there can be no doubt that the character is fixed. It is somewhat curious that when Mr. Crawshay crossed a plant of O. crispum with the pollen of O. × Wilckeanum he also obtained a hybrid practically indistinguishable from an unspotted form of O. crispum (See *O.R.*, xi., p. 357). In both cases the result was considered to be due to reversion. It is fortunate that this kind of reversion is not an invariable rule.

ODONTOGLOSSUM CRISPUM CRAWSHAYANUM.

The annexed figure (fig. 27) represents the handsome Odontoglossum crispum Crawshayanum, which was the pollen parent of the white form of O. crispum figured on the preceding page. The photograph, here reproduced slightly over two-thirds natural size, was taken in May, 1904, when the plant was exhibited at a meeting of the R.H.S. (*O.R.*, xii., p. 172), and the flowers were $3\frac{3}{4}$ inches across. The segments are not so broad and round as in some forms of O. crispum, but this is compensated for by the very large irregular blotch on each segment, which markings being set off

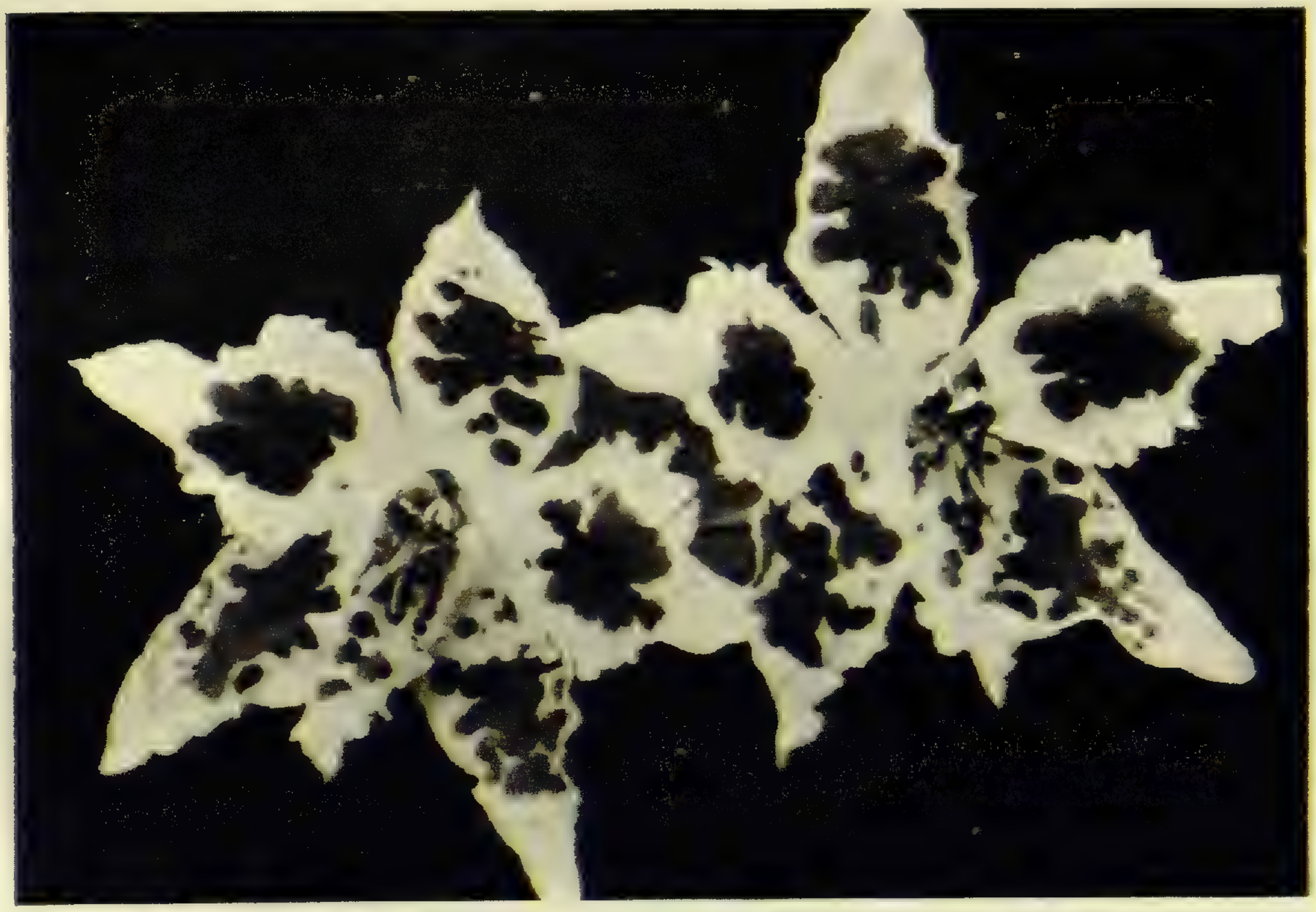

Fig. 27. Odontoglossum crispum Crawshayanum.

by a broad white margin, are remarkably effective. On the lip there are only a few smallish blotches in front of the crest. It is one of the numerous handsome forms now in the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks, and we are indebted to Mr. Crawshay for the photograph.

OBITUARY.

T. M. Crook.—We regret to hear of the death on March 8th of Mr. Thomas Miller Crook, Stanley Grange, Hoghton, near Preston, at the early age of forty-five years. Mr. Crook was an enthusiastic cultivator of Orchids and has long been a supporter of the *Review*.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of this Society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on March 14th, when there was a very fine display of Orchids, and the Orchid Committee awarded no less than ten Awards of Merit, but not a single First-class Certificate.

Jeremiah Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), staged a fine group, to which a Silver Flora Medal was awarded. It contained a number of plants of the free-flowering orange-coloured Epidendrum × Boundii, some good forms of Cattleya Trianæ, C. intermedia alba, Lælia flava, L. cinnabarina, Phalænopsis, Miltonia Warscewiczii, Odontoglossum crispum, O. triumphans, &c.

The Right Hon. the Earl of Tankerville, Chillingham Castle, Northumberland (gr. Mr. Hunter), staged a small choice group, including the beautiful Cypripedium × Dora Crawshaw, C. × Maudiæ, C. × Helen II., C. × aureum virginale, C. × a. Hyeanum, &c. An Award of Merit was given to Brassocattleya × Digbyano-Schrœderæ Tankervilliæ, a beautiful white form tinged with blush pink.

Captain Holford, C.I.E., Westonbirt (gr. Mr. Alexander), showed Cattleya Trianæ Percival, a large rosy form, Cypripedium × Charles Richman magnificum, a very richly coloured form, and Lycaste Skinneri atrosanguinea, having a dark crimson lip, rosy petals, and blush coloured sepals, the two latter each receiving an Award of Merit.

H. J. Elwes, Esq., Colesborne, Cheltenham (gr. Mr. Walters), sent the pretty Dendrobium × Elwesii (Hildebrandii × aureum), a pretty light yellow flower with a purple blotch on the lip, which gained an Award of Merit.

Mrs. Haywood, Woodhatch, Reigate (gr. Mr. Salter), also received an Award of Merit for Cypripedium × Haywoodianum (× T. B. Haywood × bellatulum), a large and handsome rose-purple flower, veined with claret purple, and the upper margin of the dorsal sepal white.

J. Newton Mapping, Esq., Headley Park, Epsom (gr. Mr. Beeson), obtained an Award of Merit for the beautiful Dendrobium Wardianum candidum.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. Black), sent an interesting series of Dendrobium × Blackianum (× Wiganiæ × Findlayanum), varying greatly in size and colour; also D. × chessingtonense (aureum × Wiganiæ), a handsome bright yellow flower, with chocolate blotch on the lip, to which an Award of Merit was given. A note on these plants appears on page 191.

Alderman William Bolton, Mayor of Warrington (gr. Mr. Cain), sent

Cypripedium Chamberlainianum magnificum, a large and vigorous form.

A. H. Houlder, Esq., Hurst Place, Bexley (gr. Mr. Dyer), sent a fine specimen of Cœlogyne cristata Chatsworth var.

M. Jules Hye, Coupure, Ghent (gr. M. Coen), sent Cattleya × Madame Jules Hye (Gaskelliana alba × Mossiæ Wageneri), a beautiful white flower with a yellow disc to the lip, thus retaining the albino character of both parents.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), sent the handsome Dendrobium × Melpomene inversum, Epicattleya × Gaskello-Parkinsonianum (C. Gaskelliana × Epidendrum Parkinsonianum), having white flowers tinged with rose, and spikes of Odontoglossum coronarium miniatum.

The Rev. F. Mason, The Firs, Warwick (gr. Mr. Marlow), sent a good Brassocattleya × Digbyano-Warneri.

F. Menteith Ogilvie, Esq., The Shrubbery, Oxford (gr. Mr. Balmforth), sent the beautiful Cypripedium callosum Sanderæ, and Lælio-cattleya × Gottoiana magnifica.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent Cypripedium × allertonense magnificum with two flowers.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a fine group, to which a Silver-gilt Flora Medal was awarded. It contained some good Odontoglossum crispum forms, O. cirrhossum and O. × Adrianæ, the handsome O. × Harryano-triumphans, Spathoglottis aurea, Platyclinis glumacea, good batches of Phaius × Norman and Lælio-cattleya × Myra, L.-c. × callistoglossa, L.-c. × luminosa, L.-c. × Wellsiana albens, Cattleya × Empress Frederick superba, and other fine things. An Award of Merit was given to Brassocattleya × Digbyano-Trianæ Heaton var., a large and handsome lilac-rose form, with a greenish-yellow disc to the lip.

Messrs. J. Cypher & Sons, Cheltenham, received a Silver Flora Medal for a showy group of Dendrobiums, Masdevallias, Cypripediums, Odontoglossums, including the rare O. nævium, Epidendrum Stamfordianum, Epiphronitis × Veitchii, &c., the plants being excellently grown and flowered.

M. Ch. Vuylsteke, Loochristi, Ghent, sent a few choice hybrid Odontoglossums, gaining a Cultural Commendation for a finely-flowered O. × ardentissimum, and Awards of Merit for O. × amabile, which most resembles O. crispo-Harryanum, and has cream-white flowers densely spotted with red-brown, and O. × Lawrenceanum (triumphans × Rolfeæ) which has bright yellow sepals and petals heavily barred with brown, and a white lip blotched with purple.

Messrs. James Veitch & Sons, Chelsea, sent Dialælia × Veitchii Diacrium bicornutum × Lælia cinnabarina), a very interesting hybrid,

most resembling the Diacrium in habit, and bearing an inflorescence about two feet long, with nine or ten flowers. These were about two inches across, with narrow segments, white, tinged with lilac, and the younger flowers showing a slight bronzy tint. A Botanical Certificate was awarded by the Scientific Committee.

Messrs. Hugh Low & Co., Bush Hill Park, sent Oncidium × Lowii, a handsome thing, supposed to be a natural hybrid, which is described on page 126.

Messrs. Sander & Sons, St. Albans, staged a small group containing some good forms of Cattleya Trianæ, one of which, called Blue Gown, had lavender-tinted sepals and petals, and the front lobe of the lip violet-blue. Two plants of the very rare Guatemalan Odontoglossum stellatum were also very interesting.

Mr. James Douglas, Great Bookham, sent two plants of Cypripedium × Deedmanianum and a C. Lawrenceanum, hybrid.

AT the meeting held on March 28th a good display of Orchids was again seen, and five medals were awarded.

Baron Sir H. Schröder, The Dell, Egham, staged a remarkably fine group, to which a silver-gilt Flora Medal was awarded. It contained a fine series of Dendrobiums, species and hybrids, specially interesting being the fine D. superbum and its pure white variety Dearei, analogous with D. nobile virginale, which was also present, with many other nobile forms, also D. crepidatum, D. fimbriatum oculatum, &c., a nice clump of the pretty white Cynorchis compacta, Masdevallia triangularis, Lælia Jongheana, L. harpophylla, Cymbidium × eburneo-Lowianum, the handsome Cypripedium × Maudiæ, &c., the handsome Odontoglossum Pescatorei Veitchianum and Schrœderianum, a good O. × Coradinei, the rare O. Schillerianum, O. × elegans, O. × Wilckeanum, some good O. crispum, and O. × Adrianæ. An Award of Merit was given to O. × A. aureum, a fine form having bright yellow ground colour blotched with red brown.

N. C. Cookson, Esq., Oakwood, Wylam (gr. Mr. Chapman), also received a Silver-gilt Flora Medal for a group of choice things, including two good plants of Dendrobium × Sibyl, D. × Cybele Oakwood var., having a purple blotch on the inner angles of the lateral sepals, the charming Cypripedium × vexill-Io, C. × Schofieldianum superbum, several good Lælio-cattleyas, a fine example of Odontoglossum Pescatorei bearing three branched panicles, O. × Coradinei rosefieldiense, O. Harryanum, O. × Adrianæ, O. triumphans latisepalum, O. crispum xanthotes, and other good forms. Awards of Merit were given to O. c. Prince Leopold, a good white form, having clusters of rich red-brown spots on the petals, and larger blotches on the sepals; to O. × ardentissimum Doris, a very heavily

blotched flower and the ground colour tinged with rose, and to O. × a. Sibyl, a beautiful white form regularly blotched with purple.

H. T. Pitt, Esq., Stamford Hill (gr. Mr. Thurgood), also received a Silver-gilt Flora Medal for a very interesting group, containing some good forms of Cattleya Trianæ, Oncidium concolor, O. leucochilum, Miltonia × Roezlii, some good Sophronitis grandiflora, Eulophia gracilis, Spathoglottis aurea, the rare Galeandra Devoniana, Dendrobium Parishii, Ada aurantiaca, some good Cypripedium Mastersianum and others, Odontoglossum Harryanum, O. tripudians, O. cirrhosum, O. Hallii, O. Pescatorei, O. × Andersonianum, some good forms of O. crispum, Epiphronitis × Veitchii, the pretty Cynorchis × kewensis (Lowiana × purpurascens), &c.,

Mrs. Haywood, Woodhatch, Reigate (gr. Mr. Salter) received an Award of Merit for Dendrobium × Haywoodiæ (× splendidissimum × Findlayanum), a large and handsome form, having the segments tipped with purple, and the disc of the lip rich orange, with a reddish maroon blotch in the centre.

Sir Trevor Lawrence, Bart., Burford (gr. Mr. White,) received an Award of Merit for the new Cœlogyne Lawrenceana, an Annamese species allied to C. psittacina, having light yellow flowers marked with orange on the disc of the lip.

F. A. Bevan, Esq., Trent Park, Barnet (gr. Mr. Parr) sent a good form of Odontoglossum × elegans Trent Park var.

H. Whateley, Esq., Kenilworth, sent the handsomely blotched Odontoglossum crispum Mabel Whateley.

Messrs. Sander & Sons, St. Albans, staged a choice group, which received a Silver Banksian Medal. It contained a fine specimen of Dendrobium densiflorum, Lælia × pulcherrima, Lælio-cattleya × Henry Greenwood, L.-c. × bletchleyensis, some good hybrid Phaius, Odontoglossum × elegans, a very yellow O. × Wilckeanum, some good O. crispum, and various other good things. An Award of Merit was given to Cœlogyne speciosa alba, a pretty light flesh-coloured form, from which the usual brown markings had vanished.

Messrs. Charlesworth & Co., Heaton, Bradford, also received a Silver Banksian Medal for a fine group, containing the handsome Cattleya × Empress Frederick, and its variety aurea, which has a very large rich orange disc to the lip, Lælio-cattleya × Doris, L.-c. × Haroldiana, a very richly coloured L.-c. × Dominiana, L.-c. × Briseis, L.-c. × Mercia, L.-c. × callistoglossa. L.-c. × Veronique (L. × cinnabrosa × C. Mendelii), a pretty cream yellow flower with some rosy markings on the lip, Epilælia × Thalia (L. cinnabarina × E. atropurpurea), Odontoglossum × Lairessei (Cervantesii roseum × Edwardii), rather smaller than the one figured at page 81, and with more rosy ground and darker blotch, O. crispum Lady

Molly, a remarkable trilabellate form, the petals having a yellow disc and lip-like keels, &c.

Messrs. James Veitch & Sons, Chelsea, received an Award of Merit for Odontoglossum × ardentissimum Lamus, having the white ground colour tinged with purple and heavily blotched with rich purple. They also sent the handsome Lælio-cattleya × Digbyano-Schrœderæ, Cypripedium × eximium superbum (Germinyanum × Boxallii, C. × Milo, and Cymbidium × Lowio-grandiflorum.

Messrs. William Cutbush & Sons, Highgate Nurseries, exhibited the pretty white Dendrobium moniliforme (japonicum). It is said that it grows well outdoors in shady and very sheltered situations. The species received a Botanical Certificate.

Messrs. H. Low & Co., Enfield, staged a fine group containing many forms of Cattleya Trianæ, C. Schilleriana, C. Schrœderæ, Dendrobium × Rubens, D. × Sibyl, Miltonia × Bleuana, Cypripedium × Winnianum and others, a purple form of Mormodes buccinator, Masdevallia × Pourbaixii, and others.

M. Chas. Vuylsteke, Loochristi, Ghent, exhibited a small group of hybrid Odontoglossums, including O. × amœnum, O. × Rolfeæ, O. × Harryano-crispum, and O. × amabile, derived from the preceding recrossed with O. crispum.

Mr. H. A. Tracy, Twickenham, showed a fine plant of Cypripedium × Wormsiæ (villosum × Charlesworthii), bearing a rose-coloured dorsal sepal and villosum-like petals.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on March 2nd, and brought together a moderate display of Orchids.

S. Gratrix, Esq., Whalley Range (gr. Mr. Cypher), received Awards of Merit for Cattleya Trianæ Juno, a fine, light-coloured form, and Odontoglossum crispum var. Melba.

R. le Doux, Esq., West Derby, Liverpool (gr. Mr. Davenport), received a Vote of Thanks for a small group of interesting things, and an Award of Merit for Odontoglossum maculatum marlfieldense, a splendidly grown example.

T. Statter, Esq., Whitefield (gr. Mr. Johnson), also received a Vote of Thanks for a group of plants, and an Award of Merit for Dendrobium × whitefieldense.

E. Rogerson, Esq., Didsbury (gr. Mr. Blomley), sent a good form of Cattleya Trianæ, and Odontoglossum crispum Stanley Rogerson, a good spotted form, which received an Award of Merit.

J. E. Williamson, Esq. (gr. Mr. Jones), received an Award of Merit for

Dendrobium nobile Williamson's var., a pretty light form with purple tips to the petals.

E. Bostock, Esq., Stone (gr. Mr. Ballance), sent Cypripedium Robsoni, supposed to be a hybrid between C. insigne Sanderæ and C. exul.

Messrs. J. Cypher & Sons, Cheltenham, staged a very beautiful group of Dendrobiums, Cattleyas, Cypripediums, Lycastes and other winter-flowering Orchids, to which a Silver-gilt Medal was given.

Votes of Thanks were also accorded to Messrs. C. Parker, Allen, J. Cowan & Sons, Mitchell, and A. J. Keeling & Sons, for groups of plants.

HYBRIDIST.

CATTLEYA × LAWREGLOSSA.—This is a very handsome hybrid, raised in the collection of the Right Hon. Joseph Chamberlain, M.P., Highbury, Birmingham, from C. amethystoglossa ♀ and C. Lawrenceana ♂, of which a flower has just been sent. Mr. Mackay remarks that half-a-dozen plants are now in bloom, and it may be added that a plant from the same source is also flowering at Kew. The pseudobulbs are more cylindrical than in the pollen parent, and some of them have two spreading leaves, but the flowers most resemble that parent in colour, though the segments have more substance, and the lip is strongly three-lobed. It combines the good qualities of both its parents.

BRASSOCATTLEYA × PEETERSII.—This is a very beautiful hybrid raised by M. A. A. Peeters, St. Gilles, Brussels, from Brassavola glauca fertilised with the pollen of Cattleya Lawrenceana. It most resembles the seed parent in shape and texture, but C. Lawrenceana comes out strongly in colour, for the flower is suffused throughout with rosy purple. It flowered in February last and is a most promising thing, being the finest Brassavola glauca hybrid that we have yet seen, and we can scarcely conceive any Cattleya likely to give a richer colour than Lawrenceana.

PAPHIOPEDILUM × RIDDIFORDII.—Two forms of a hybrid derived from P. × Atys rubrum crossed with a hybrid believed to be P. × calloso-Warneri or barbato-callosum are sent from the collection of E. F. Clarke, Esq., of Teignmouth, which it is desired may be named after Mr. Clarke's gardener, Mr. Riddiford. One of them shows the callosum influence very clearly in its falcate petals, which are green with a few dark brown spots, and their purple tips show the Hookeræ and venustum influence. The dorsal sepal is closely lined with green, and a little flushed with purple at the white margin. The other flower is rather smaller and neater, and the dorsal sepal and petals are more flushed with purple. Mr. Clarke has a number of seedlings, and remarks that the foliage is very beautiful. Most

of them approach P. Hookeræ, somewhat modified by venustum, while a few approach P. barbatum. A flower of the first seedling that bloomed was previously sent, but was not then noted, and three others have since bloomed, showing a considerable amount of variation.

PAPHIOPEDILUM × WENDIGO.—A large and well-shaped hybrid, raised in the collection of Reginald Young, Esq., Sefton Park, Liverpool (gr. Mr. Poyntz), from P. callosum ♀ × P. × Sallieri Hyeanum ♂. The dorsal sepal is broad and round, light green at the base, with a slight suffusion of purple brown, and some darker veining, beyond which is a broad white margin. The petals are pale yellowish green, with a slight purple brown suffusion, and the front of the lip light purple brown. The seed was sown in November, 1896, and the first flower appeared in February last. Though a fine thing, it is hardly decided enough in colour, but other seedlings may differ in this respect.

ONCIDIUM LINDENII.

VERY slowly some of the old "lost" species of Orchids are being recovered, or, in other words, their history is being cleared up. When the note on the remarkable little Oncidium Retemeyerianum, Rchb. f. was published (*O.R.*, xii., p. 304) I had not the faintest idea that it had an earlier name, yet such proves to be the case, and, singularly enough, it is a species which both Lindley and Reichenbach tried to identify, without success. An old work has recently been added to the Kew Library, which contains an excellent coloured figure of O. Lindenii (*L'Hort. Univ.*, iii. p. 372, with plate), whence we learn that the species was described by Brougniart in a work which is also not accessible (*Herb. Gen. Amat.*, n. ser., vol. iii.). It is said to be a native of the environs of Campeche, Mexico, whence it was sent by M. J. Linden to the Museum of Natural History, at Paris, where it flowered in June, 1840. Lindley (*Sert. Orch.*, sub t. 48, n. 101) cites the species from the second edition of Loddiges' *Catalogue* (n. 1326), remarking that it was like a small O. carthaginense in habit, and that the lip was of an intense black chocolate colour. This information had been given him by Mr. Loddiges, and he concluded by saying:—"It is no doubt a very distinct species, but not having seen it in flower I cannot determine its position in the genus." Afterwards (*Fol. Orch.*, Oncid., p. 41) he enumerated it as a synonym of O. luridum, at the same time giving O. Lindenii, Hort., on the authority of Reichenbach, as a synonym of O. stramineum, Batem. (*l. c.*, p. 36). It is probable that both these references belong to Brougniart's plant, which Reichenbach clearly did not know, and when afterwards he really met with the species he described it as new, under the name of O. Retemeyerianum, as previously pointed out. R. A. R.

PAPHIOPEDILUM JAVANICUM AND P. VIRENS.

PAPHIOPEDILUM JAVANICUM is one of the rarest species in cultivation, and it may be interesting to give an illustration (fig. 29) of a flower which has just appeared at Kew, on a plant introduced direct from Java. A flower of the Bornean P. virens is also included (fig. 28), because this is sometimes ranked as a variety of the former, but it will be seen that the two are quite distinct. The photograph reproduced was taken by Mr. C. P. Raffill. The history of P. virens has already been given, together with an illustration of the whole plant (*O.R.*, xi., p. 201, fig. 37), so that nothing further need be said about it, beyond pointing out its quite distinct shape and different colouring and markings. As long ago as 1823 the name Cypripedium

Fig. 28. P. VIRENS. Fig. 29. P. JAVANICUM.

javanicum, Reinw, appeared, though without a description (*Blume Cat. Gewcs.. Buitenz.*, p. 98), and it afterwards appeared that the species was originally discovered by the Dutch botanist, Reinwardt, on the mountains of Eastern Java, at 3,000 to 4,000 feet elevation. Lindley gave a very brief description in 1850-1 (*Paxt. Fl. Gard.*, i., p. 38), adding that Blume referred it to C. venustum, though a drawing from Reinwardt and a dried flower brought home by Lobb suggested the propriety of further examination. It afterwards appeared that Lobb also sent home living plants. for in 1851-2 it was figured in *Flore de Serres* (t. 703), where we learn. on the authority of Keteleer, that Messrs. Veitch in 1847 distributed it under the name of C. barbatum pallidum. It appears to have flowered with Messrs. Veitch in 1846, for when C. barbatum was figured in the *Botanical Magazine*

(t. 4234) Sir William Hooker remarked that in two beautiful flowering specimens sent by Mr. Veitch, one (that figured) exhibited the dark purple of C. barbatum, "the other the pale colour of C. venustum." The leaves, too, were different, and as C. javanicum was enumerated as a synonym, and as the plant had been sent from Java, there can be no doubt that it was the present plant. The remark also explains the name C. barbatum pallidum just alluded to. Messrs. Veitch have since given the date of introduction as 1840 (*Man. Orch.*, iv., p. 35). The species was well figured by Blume in 1858 (*Coll. Orch. Archip. Ind.*, p. 167, fig. 3, t. 58), one of the scapes showing a second bud. As regards differences in shape, the figures explain themselves, though it may be added that the staminode of P. javanicum is relatively broader, and the teeth incurved and more acute, while the peculiar recurving of the petals of P. virens is better shown in the earlier figure mentioned. The close emerald-green veining of the dorsal sepal of the latter is also quite different from that of P. javanicum, as also is the spotting of the petals. It is interesting to clear these points up. R. A. R.

ORCHIDS AT WOODHATCH, REIGATE.

IN Mrs. Haywood's well-known collection of Orchids at Woodhatch, Reigate (gr. Mr. C. J. Salter), I recently saw one of the most beautiful and splendidly grown collections of Dendrobiums that I have yet met with. A range of lean-to houses, facing south, divided into three compartments, the doors having been removed, so as to make the display as effective as possible, made it appear to be as one long house, the entire length being about 100 feet. Herein was arranged a fine collection of these plants, many of them being of large specimen size, and literally wreathed in bloom. In fact, one seldom meets with an Orchid floral scene so enchanting as that presented by the bank of blossoms then (March 10th) in the height of the flowering period. The number of plants here collected together, and seemingly to form one grand group, is unusual, their health and vigour has seldom been equalled, and it would be difficult to find a weak or unhealthy plant among them. The black "spot" or disease so often found upon the foliage of Dendrobiums is not to be seen here. Many of the specimens were grown from seedlings, and a large number of the older varieties from small propagated pieces. Some of the stronger bits have produced in one year three and even four new bulbs, a considerable number of them over 2½ feet in height. One particularly handsome specimen of D. × splendidissimum picturatum, having three strong flowering bulbs about four feet in length, each pseudobulb having between fifty and sixty flowers, is a fine example of cultural skill, and of which Mr. Salter may be justly proud.

Several large plants of D. × splendidissimum grandiflorum; D. × s.

delicatum, D. × s. Amor (very fine), D. × Virgil having from six to eight flowering growths, each about four feet in height, were laden with between 300 and 400 large well-coloured blooms. D. × s. Mrs. Haywood is conspicuous and attractive, and bears exceptionally large flowers, heavily marked with purple lilac colour, with a very large dark maroon blotch on the lip. D. × Edithæ superbum produces very fine large bright coloured flowers. D. × Cybele nobilior is especially fine, being the largest and best coloured variety I have yet seen. Mr. Salter also has a fine collection of nearly all of the best varieties of the D. × melanodiscus crosses, which include D. × melanodiscus, D. × m. Salteri, D. × m. giganteum, D. × m. gloriosum, also the Burford hybrids, D. × Juno, D. × pallens, D. × Rainbow, D. × Juno, D. × Wiganiæ, D. × W. xanthochilum, D. × Melpomene, &c. All these varieties were in bloom, together with such well known Dendrobes as D. × Ainsworthii, D. × A. Woodhatch var., D. × Schneiderianum, the sweet scented D. × endocharis, D × Cassiope, (fine plants), D. nobile, D. n. nobilius, D. n. Ballianum, D. n. Amesiæ, and many others, too numerous to mention. Some of the large plants which are in sixteen inch pots are already sending up as many as sixteen and eighteen growths each, and among the smaller plants that are in five inch pots, several were producing a dozen or more young breaks. Among these Dendrobiums are many of the most rare and beautiful hybrids in cultivation, and the great variety and colour of these numerous distinct forms is quite charming and exceedingly interesting, not only to the casual observer, but also to those who are interested in Orchids and their culture.

As regards culture, Mr. Salter says the plants are potted when the young growths commence to push new roots from their base ; he affords plenty of pot room, and the pots are provided with perfect drainage, these being about half filled with clean crocks. The compost consists of sphagnum moss, with a moderate quantity of coarse silver sand and a few small crocks mixed with it. After the plants are repotted they are kept rather dry, but as soon as the roots have pushed well toward the sides of the pot, some living heads of sphagnum moss are pricked over the surface of the compost, and the supply of water is gradually increased. During the growing season the temperature of the house is between 70° and 90°, with plenty of atmospheric moisture, and the plants are kept well shaded from all strong sunshine. Air is admitted only from the top ventilators. About the end of August or the beginning of September, according to the strength of the sun, the blinds are removed, and full sunlight and plenty of air are admitted. From the end of November till February the temperature is kept as near 60° as possible, and dry, only a little water being afforded to the plants occasionally, so as to prevent the pseudobulbs from shrivelling. In the beginning of February a little damping down is done to prepare the

plants for flowering, but when the flowers open it is again discontinued. About fifty plants of D. Phalænopsis Schrœderianum are grown, and these difficult plants are in splendid health, the leaves being quite green, and free from "spot" or disease. They are grown in the house with the other Dendrobes. In the same range are some fine specimens of Cypripedium: C. × Arthurianum (two feet across), C. × Harrisianum superbum, C. × Calypso, C. × Euryades, C. × Fowlerianum, C. × Lathamianum, &c., also a fine hybrid between C. × T. B. Haywood × C. bellatulum, named C. × Haywoodianum, and which received an Award of Merit from the Orchid Committee of the R.H.S. on March 14th inst.

In the other houses a large number of Orchids were in bloom, including a well grown plant of the pretty yellow Oncidium cheirophorum, with eighteen spikes of bloom, and fine specimens of O. macranthum were showing well for bloom. Masdevallia Veitchiana, M. Chelsoni, M. ignea, a fine plant of the rare M. Schrœderiana, M. triangularis, and a splendidly grown batch of M. tovarensis, which has recently produced many hundreds of its pure white blossoms. The Odontoglossums are in good condition; a few good O. crispums grown were in bloom, and a large number are producing strong flower spikes. Miltonia vexillaria is represented by fine healthy plants, which are showing well for flower. Epiphronitis × Veitchii thrives well here, and its pretty cinnabar-scarlet flowers are always attractive. Ada aurantiaca, Lycaste Skinnerii alba, Maxillaria Sanderiana, Cattleya Trianæ alba, and many other pretty species were showing well for bloom.

W. H. W.

ORCHIDS IN SEASON.

A VERY charming form of Odontoglossum crispum is sent from the collection of W. G. Lovell, Esq., Argyle Lodge, Tulse Hill, by Mr. Gales. It has broad pure white segments, with a cluster of cinnamon-brown spots in the centre of the petals, and two groups of blotches on the sepals, while some spots of similar colour appear on the broad, somewhat concave, fringed lip. It is blooming for the first time, with two flowers on the scape, and should develop into a fine thing, being already three inches in diameter across the petals.

Several beautiful flowers are sent from the collection of R. I. Measures, Esq., Camberwell, by Mr. Smith. They include a richly-coloured form of Lælio-cattleya × highburiensis; the handsome L.-c. × Captain Percy Scott; the fine Paphiopedilum × Leander, having villosum-like petals, and numerous small purple spots on the dorsal sepal; P. × Lachmee; a fine light coloured P. × aureum, having a short light purple band from the base to the middle of the dorsal sepal; P. × almum, the fine barbato-Lawrenceanum hybrid; and another distinct form descended from P.

villosum and P. Rothschildianum. There is also a form of Odontoglossum crispum having a petal-like undulate dorsal sepal, and the rare Angræcum Leonis, together with Scaphosepalum pulvinare and S. antenniferum, two interesting botanical Orchids, the latter of which we only know from this collection.

A number of beautiful Dendrobiums are sent from the collection o W. A. Bilney, Esq., Fir Grange, Weybridge, by Mr. Whitlock. They include the handsome D. Falconeri giganteum, D. Brymerianum, fine forms of D. Wardianum, D. Findlayanum, some beautiful D. nobile varieties, among which Cooksonianum, nobilius, virginale and albiflorum may be mentioned, and many charming hybrids. One very pretty form was obtained by crossing D. tortile and D. × Ainsworthii, and shows the characters of both parents. It is rather variable in colour, and we would suggest the name D. × Bilneyi for it. D. × Ainsworthii and the hybrids between it and D. nobile are always beautiful, and among the latter must be mentioned the large and richly coloured D. × Rubens grandiflorum, with the varieties Apollo and Socius. One known as The Pearl is a beautiful white, with a very dark disc. Other handsome things are D. × Cybele giganteum, D. × C. elegans, rather paler but with broader petals, D. × Sibyl, D. × Clio, D. × Harold, a beautiful rosy purple with a small blotch on the disc, D. × Niobe, D. × Schneiderianum, D. × Andromeda, the charming D. × Pirene, and several others, forming a very beautiful group, and affording evidence of excellent culture.

A good form of Cattleya Trianæ is sent from the collection of J. J. Neale, Esq., of Penarth, by Mr. Haddon. It is of average size, excellent shape. and bright rosy lilac in colour, with the usual orange-coloured disc and richly coloured front lobe to the lip. A photograph of Epidendrum Stamfordianum is also sent, showing a good plant bearing numerous fine inflorescences.

Several beautiful Odontoglossums are sent by M. Oscar Fanyau, of Lille, France, by M. E. Cleverly. O. crispum Suzanne Delacre is a handsomely blotched form having large dark purple-red blotches equally heavy on all the segments, and the lip broad and well blotched. It should develop into a fine thing. Two good forms of O. × loochristiense were raised, one from crispum × triumphans, the other from the reverse cross, and both have the usual intermediate character. Some other seedlings of the same crosses are showing flower spikes. There is also a very fine flower of O. × Harryano-crispum, and what we take to be form of O. × Coradinei. There is also a flower of the handsome Lycaste Skinneri hellemmensis, in which the sepals are suffused with rose-purple, the petals rich crimson, and the lip densely spotted with crimson on a white ground. They form a very beautiful little group.

ONCIDIUM LOWII.

THERE are two or three imperfectly known and puzzling Oncidiums of the Sarcoptera group which it would be interesting to clear up. One such is the subject of this note. It was imported by Messrs. Hugh Low & Co., Bush Hill Park, with O. Cavendishianum, of which it has the general appearance, but the flower spike is developed to between five and six feet long, with fifteen side branches, and approximately 150 flowers, and thus, as the introducers suggest, leans towards O. carthaginense. It was exhibited at the R.H.S. meeting on March 14th last, under the above name, as a suspected natural hybrid between the two species mentioned. The flowers, though nearest to O. Cavendishianum in size, are about intermediate in shape, the sepals and petals being strongly undulate, and the dorsal sepal as strongly unguiculate and cochleate as in O. carthaginense itself. Their colour is bright yellow, heavily spotted with red brown except at the margin. The lip differs from that of O. Cavendishianum in shape, the side lobes being more curved, less spathulate, and somewhat undulate, while the colour is not clear yellow as in that species, but the disc and the lower half of all the lobes are heavily spotted and blotched with red brown, the spots being confluent at the base. The crest consists of five round, whitish calli, somewhat spotted with brown, the three front ones being confluent at the base. The column wings are auriculate, very fleshy, and blotched with red-brown. Whether the above suggestion does represent its actual origin cannot yet be proved, for O. carthaginense and O. Cavendishianum are not known to grow intermixed, though both are found in the Gulf States of Mexico. That this came home with O. Cavendishianum is known, but nothing else was found in the importation. One natural hybrid is known in this group, namely, the beautiful O. × hæmatochilum, which was for so long supposed to be a species from Colombia, but is now known to be a natural hybrid between O. luridum and O. Lanceanum (*O. R.*, iii., pp. 174, 175; vii., p. 273, fig. 15). In some respects O. Lowii recalls O. intermedium (*Kn. & Westc., Fl. Cab.*, ii., p. 53, t. 60), a native of Cuba, which flowered in the collection of George Barker, Esq., of Birmingham, in March, 1838. That is now classed as a variety of O. luridum, but its exact status is not beyond doubt, as may be seen by the fine figure in the (*Orchid Album* viii., t. 345). Then there is O. chrysops, Rchb. f. (*Gard. Chron.*, 1888, i., p. 104), which also appeared with Messrs. Low & Co., and was described as an ally of O. bicallosum, Cavendishianum, and pachyphyllum. I have not seen a specimen. It would be interesting to know more about the geographical distribution of these allied forms. Whatever O. Lowii ultimately proves to be it is certainly a handsome thing.

R. A. ROLFE.

NOTES.

Two meetings of the R.H.S. will be held at the Royal Horticultural Hall, Vincent Square, during April, on the 11th and 25th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on April 13th and 27th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

We have received the first issue, dated March, 1905, of a new horticultural publication entitled *The Gardeners' Chronicle of America*. It is intended to appear on the 20th of each month, price five cents per copy, and to include cultural details and matters of general importance and interest to gardeners. Two pages are set apart for Orchids in this first issue, and contain articles by Mr. James Goodier, entitled "March in the Orchid Houses," and "Find a corner for Orchids: a section of the Rose House will do finely," the latter being accompanied by a good photographic illustration of a specimen plant of Cattleya Trianæ, "a valuable species for a greenhouse or for cut flowers." The former is, of course, a Calendar of Operations. We wish our new contemporary success, but we regret that a more distinctive title has not been chosen, for in the very first issue we find a letter "To the Editor, Gardeners' Chronicle." Perhaps the writer intended to say the "American Gardeners' Chronicle."

Cattleya Trianæ Westonbirt var. is a very large and handsome form sent from the collection of Captain Holford, Westonbirt, Tetbury, by Mr. Alexander. The petals are 3½ inches long, by over three inches broad, and the colour mauve-purple, while the lip is finely developed, and rich purple-crimson with a lilac margin.

A fine flower of Paphiopedilum × aureum virginale is sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, by Mr. Rogers, together with an inflorescence of Odontoglossum crispum in which the dorsal sepal is petal-like in shape and texture, while the lateral sepals have some yellow colour and lip-like crests on their adjacent halves. The character is apparently permanent.

ONCIDIUM RIVIEREANUM.—Can any one tell us what Oncidium Riviereanum is? We find two descriptions, in which it is said to have spikes of twenty to thirty flowers, larger than those of Oncidium Marshallianum, with sepals and petals of a beautiful white, spotted with brick red

and black, and a golden yellow lip, spotted with dark carmine and black. It is a native of Brazil. Other details are given which do not suffice to show the affinity of the plant or the group to which it belongs. New species should not be described in this fashion. Still worse than this is the case of a large number of other "new species" which we have recently come across in more than one publication, of which not a single word of description is given. The originals, in some cases at all events, are in private hands and inaccessible, so that it is impossible to ascertain what they are. Such species are not published in the proper sense and their claims to priority should be ignored.

ORCHID PORTRAITS.

ANGRÆCUM SESQUIPEDALE.—*Gard. World*, 1905. p. 179, with fig.

CATTLEYA TRIANÆ.—*Amer. Gard. Chron.*, 1905, p. 5, with fig.

CŒLOGYNE CRISTATA (at Welwyn).—*Garden*, 1905, i., p. 161, with fig.

CYPRIPEDIUM × CRAVENIÆ.—*Gard. World*, 1905, p. 145, with fig.

CYPRIPEDIUM × KING EDWARD VII.—*Journ. Hort.*, 1905, i., p. 231, with fig.

DENDROBIUM REGIUM, Prain.—*Bot. Mag.*, t. 8003.

DENDROBIUM WARDIANUM CANDIDUM.—*Journ. Hort.*, 1905, i., p. 273, with fig.

GENYORCHIS PUMILA, Schlechter.—*Rev. Hort. Belge*, 1905, p. 61, with plate.

LÆLIA ANCEPS ALBA.—*Journ. Hort.*, 1905, i., pp. 178, 179, with fig.

LYCASTE SKINNERI ALBA.—*Journ. Hort.*, 1905, i., pp. 252, 253, with fig.

PHALÆNOPSIS SCHILLERIANA (at Tring Park).—*Gard. Chron.*, 1905, i., p. 152, with suppl. fig.; (at Bradford), *l.c.*, p. 131, fig. 54: *Gard. Mag.*, 1905, p. 151, with fig.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

J. F. S. The larger unnamed seedling is evidently a form of Paphiopedilum × Leeanum, but the other we do not at present recognise, though the markings on the dorsal sepal suggest P. Boxallii as one parent. It seems undeveloped at present.

P. S., Sale. The Dendrobium nobile sent is the very pretty variety murrhiniacum.

H. G. A. A good broad yellow form of Odontoglossum triumphans.

I. B. Cœlogyne Huettneriana and a good form of Odontoglossum × Coradinei.

Photographs received with thanks. J. C., I. B., J. J. N., H. T., Crassinode, A. W. H.

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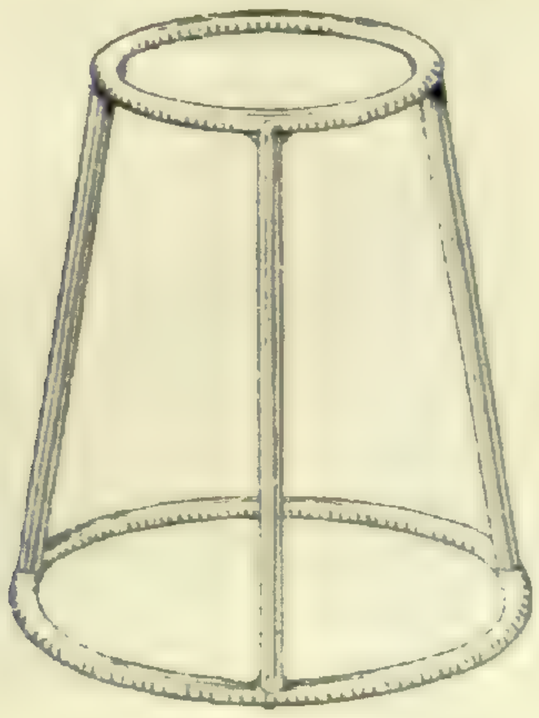

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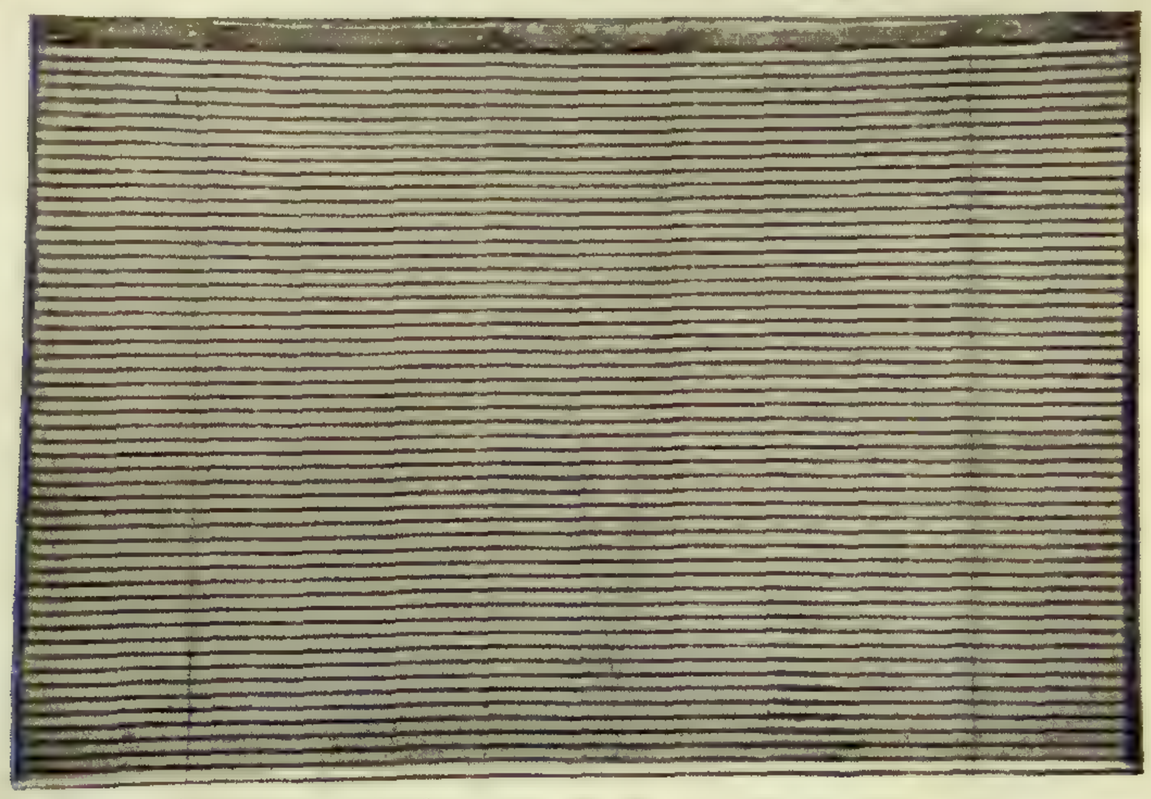

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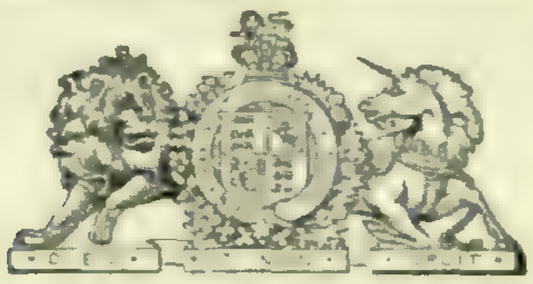

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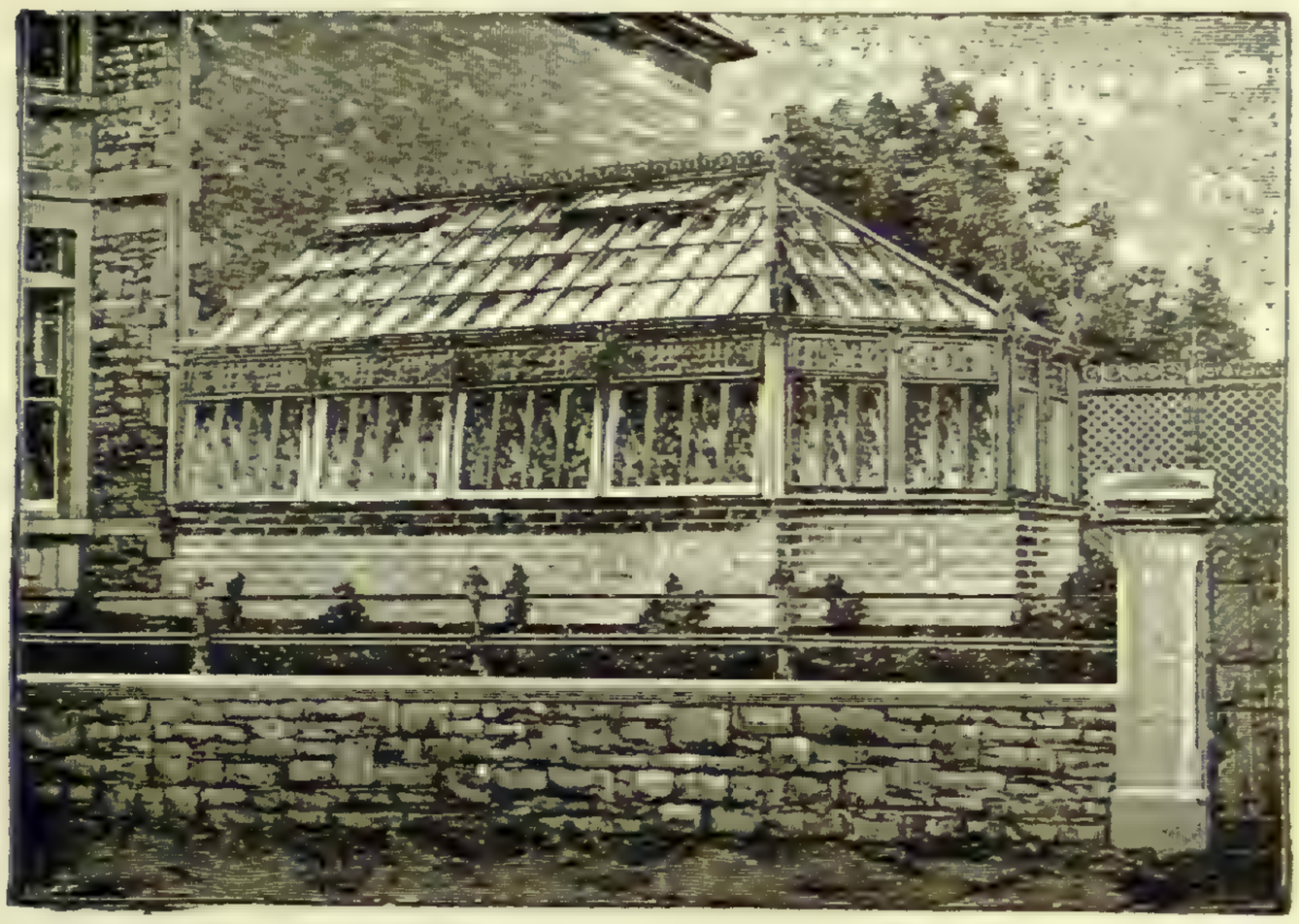

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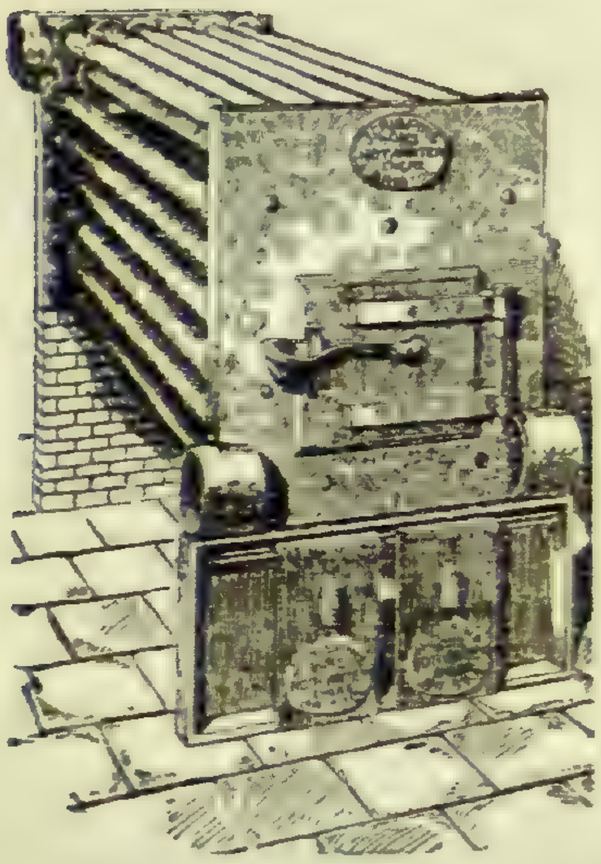

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THE ORCHID REVIEW:

An Illustrated Monthly Journal of Orchidology.

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THE ORCHID REVIEW.

VOL. XIII.] *MAY*, 1905. [No. 149.

DIES ORCHIDIANI.

"FAIRRIEANUM" is literally in the air—I need not be more explicit as to the name—and Orchidists are everywhere asking, "can it be true that the home of the 'lost Orchid' has at last been discovered?" Events follow each other with such startling rapidity as to make one almost breathless, and I have quite a series of newspaper cuttings. The earliest of them announces that the Cypripedium Fairrieanum has been rediscovered, and that two persons have the secret of its natural habitat between them. They have also a fine stock of plants, and will now claim the reward of £2,000 (I thought it was £1,000) offered by a certain London firm of plant merchants. The locality is mentioned as a "profound secret," but "*not* the Garo hills, its supposed natural habit." I wonder who supposed that. Then came the startling news that "the plant was lost to the world in 1876, and may be said to be practically extinct in Europe at the present time." The two statements do not quite hang together. The next account said that natives had been sent into the awful country of Bhotan, when Assam was hopeless, and this had led to the rediscovery of the plant. Well, it happens that Bhotan has been one of the recorded habitats ever since Van Houtte imported it, but this story says it was Assam, and twice alludes to the importer as M. van Houten. One almost expects the explanation that he was the cocoa man. Then we get a portrait of the "rediscovered" plant, but it happens to be the "old" one instead. Another account of the same date tells us twice that the "undiscovered" **Orchid has been "found"—in "Burmah."**

Next came a word of warning to enthusiasts, with the remark "*Caveat emptor.*" and then, before we quite realised what had really happened, came the startling news that the authorities at Kew had been pleasantly astonished by the receipt of two fine unestablished masses, which they recognised with confidence as the true plant. They came from Calcutta, but "by what agency they turned up at Calcutta there is no hint."

Two months ago I remarked (p. 65):—"Some of these days I fully expect to hear of the rediscovery of the species, and then there will be a little flutter of excitement," but I little suspected how soon and how literally the remark would come true. Almost anything may happen now, and I shall watch for further developments. Many Orchidists of the present day have never seen a living flower, but how much longer is this state of things to continue?

In the same article I alluded to some criticisms on what may be called the Moorea question (pp. 65-66), and remarked on the absence of any suggestion as to what ought to have been done under the circumstances detailed. The *Journal of Horticulture* now says that "where a change is instigated owing to additional botanical knowledge one cannot fairly complain, but where old names are revived on the mere ground of priority it is the time to cry 'Halt.'" Very well, additional botanical knowledge did show that the Pampas grass was not a Gynerium, so it was made into a distinct genus under the name of Cortaderia. But its distinctness was claimed on its first introduction, and the name Moorea was given in honour of its introducer, though the fact was afterwards overlooked. It is not a question between Gynerium and Moorea, but between the latter and Cortaderia, a name of far more recent date. Unfortunately the name Moorea has since been given to an Orchid, but when the facts were discovered the Orchid name was changed by the addition of a perfectly admissible prefix, and became Neomoorea. I do not see that we can fairly complain, considering all the circumstances.

However, the Editor adds:—"The only effectual procedure for horticulturists is to ignore such changes entirely. The botanists might remember that they are a mere handful compared with the horticulturists."

This seems to be a rather simple remedy, and might perhaps be applied without troubling about any additional botanical knowledge. It is unfortunate that mistakes are sometimes made, and apparently still more so that they are found out afterwards. This drastic remedy would, however, avoid all trouble in future if only we can secure its adoption. The pity is that it is now rather late in the day. If it had been attended to earlier we might still be calling Phalænopsis amabilis—but there that is another delicate subject. And there is Phaius tuberculosus. And how about (what is it?) Digbyana? These pesky changes are the cause of endless trouble, and look how simple is the remedy. But I must leave the botanists and horticulturists to fight it out.

ARGUS.

ORCHIDS AT CLARE LAWN.

THE following include some of the more noteworthy Orchids seen in flower the other day in the rich collection of Sir Frederick Wigan, Bart., at Clare Lawn, East Sheen. In the Odontoglossum house was the handsome O. × Wiganianum, a reputed hybrid between O. × Wilckeanum and O. × Rolfeæ, which a few days earlier had received a First-class Certificate from the R.H.S., and which is noted on another page. Close by were two good forms of O. × excellens, one having an inflorescence with three side branches. A fine O. × Rolfeæ had just been cut, and Mr. Young pointed these two out as the probable parents of O. × Wiganianum. O. × Wilckeanum was also in flower, but no resemblance to it could be traced in the hybrid in question. O. × elegans and O. × amabile were also fine, and with half a dozen good Oncidium concolor and some richly coloured Masdevallias, including M. ignea Eckhardtii, with six blooms, M. Veitchiana and M. coccinea, brightened up the house. M. × Pourbaixii was good, and M. Shuttleworthii xanthocorys carried eighteen flowers. This variety is said to be much more floriferous than the type. Lælia Jongheana was in bloom, and a good plant of the rare Cymbidium Devonianum was pushing up five fine spikes. Two plants of C. tigrinum were also showing for flower, one of them having been procured from the Day collection many years ago.

In an adjoining house were some good plants of Odontoglossum Œrstedii, one of them bearing as many as three dozen flowers, a series of ten fine clumps of O. Rossii varying considerably in colour and markings, up to the handsome O. Rossii rubescens, O. Cervantesii and its variety roseum, some good O. crispum, O. × Andersonianum with its varieties Ruckerianum and hebraicum, some good Ada aurantiaca, Miltonia vexillaria, and Sophronitis grandiflora, two plants of the handsome Zygocolax × Veitchii Kromeri, and numerous other things in spike.

In the Cattleya house we found the rare Cattleya × O'Brieniana in bloom, with C. Schrœderæ alba, C. intermedia nivea, the handsome Trichopilia suavis, also the variety alba, which came from the Downside collection 17 years ago, Epidendrum xanthinum, Lælia × Latona, three good Miltonia × Bleuana, Lycaste aromatica, Dendrobium moniliforme, a fine spike of Brassia brachiata, &c. It is interesting to find that culture in leaf-compost is still a success, and Mr. Young pointed out a plant of Lælio-cattleya × highburiensis which has been in leaf compost since 1898, and, so far from deteriorating, has enormous bulbs and leaves, and is now showing three very strong spikes. Brassocattleya × Digbyano-Mossiæ is very vigorous, and is producing a fine sheath, while Brassolælia Digbyano-purpurata is equally vigorous, and matured two sets of growth last year.

Similar remarks apply to Cypripedium bellatulum and its variety album, which were remarkably strong and healthy, some being grown in leaves with only the addition of some anthracite coal cinders to keep the compost open. The only modification that is being made is the introduction of rather more peat fibre than formerly, so as to keep the compost open, and thus counteract its tendency to hold too much water. The need of careful watering when leaf-compost is used has often been pointed out, and this is one means of securing the desired end.

In another house we found a batch of Miltonia vexillaria in robust health, including the varieties gigantea, alba, and chelseensis, some being in flower and the rest in bud. Here was also the handsome Zygocolax × leopardinus, and a very fine example of Dendrobium × Wiganianum, which also showed the unusual phenomenon of one of the young growths at the base becoming arrested and terminating in a raceme of flowers. Near by we saw a nice batch of seedling Dendrobiums and Lælio-cattleyas, showing that the work of hybridising is receiving attention. Seedlings from Lælia longipes × pumila may prove interesting when they flower. Here also was a good example of Dendrobium fimbriatum, the true, unblotched form, D. chrysotoxum, Thunia alba, Cœlogyne tomentosa, C. pandurata showing for flower, Cypripedium niveum, and some of the more familiar species.

The Phalænopsis house is always a very interesting feature, and at the present time P. Mannii, P. fuscata, and P. Lueddemanniana are in flower, besides some of the more familiar kinds, of which the majority are over for the season. Miltonia Roezlii succeeds remarkably well, and includes plants which have been grown since 1889. It has been flowering freely for some time. Zygonisia × Rolfeana also thrives well, and flowers twice a year. At the present time it is bearing four racemes, two of them being from a single bulb. The flowers are of a peculiar shade of violet-blue, and are very distinct and handsome. Other interesting things noted in flower were Angræcum modestum, and quite a number of Cypripedes, including four good C. Mastersianum, a lot of C. Lawrenceanum planted out, one of them carrying a twin-flowered scape, and various others. Plants of the remarkable Bulbophyllum Ericssoni and B. virescens were growing well on rafts. There was also a very fine clump of the handsome Hæmaria Dawsoniana, one of the most effective species of the Anœctochilus group.

In the rockwork house were some good plants of Cymbidium Lowianum in bloom, together with C. L. concolor, and the unique C. × I'Ansoni with two spikes of flowers. Oncidium insculptum was also flowering, its long inflorescence being trained on the roof. The collection generally is in thriving condition, which shows how well the wants of the different groups are looked after by Mr. Young and his assistants.

ORCHIDS.

BY J. M. BLACK.

(*Concluded from page 100*).

BEFORE one embarks on hybridising, it is well to start off with some well-defined object in view. The days are over when for an Orchid to be a hybrid was already sufficient to win it praise. To-day a hybrid requires to be particularly fine to gain any recognition at all, and, as the years go on, the standard must inevitably be raised, as it is now generally recognised that the finest varieties judiciously mated produce the finest hybrids. This seems only common sense, but it is not so long ago since a man whose word carries some weight maintained to me that it was all a matter of chance, that good results could be expected from the crossing of poor varieties in as large a proportion as if they had been selected.

A good rule, which it is safe to follow, is to keep the dark varieties together and the light together; this rule applies, with little modification, through all the genera of Orchids. To cross a light variety with a dark variety would naturally result in progeny intermediate between the two colours—neither dark nor light, and the same result could have been obtained by crossing varieties of ordinary intermediate colours. This is not making progress.

I might say here, that I have read different scientific articles on the percentage of seedlings which should come intermediate, and the percentage which should take more after the pollen and seed parents, but I do not regard this as having a very serious value to the practical Orchid grower. It is sufficient for me to know that the albinos perpetuate themselves from seed, both as species and as hybrids. That the white species come true from seed has been proved in the case of Cypripedium insigne Sanderæ, and also in the case of Dendrobium nobile virginale (the latter being raised by myself), to mention but these two; and we have proof that albino species crossed produce albino hybrids in Cypripedium × Maudiæ and Cattleya × Madame Myra Peeters. It is only logical to expect dark varieties to be also constant in reproducing themselves.

There is, no doubt, the probability of a kind of reaction among hybrids, especially Cattleya and Lælio-cattleya crosses, owing to the great number which now abound, but those who have been selecting the very best parents need not—if I can rely upon my own observations—have any fear for the success of their labours. *The best* must always cause admiration, and the more poor varieties there are the greater the value of the best will become. Another safeguard against a slump in worthy hybrids is the great variability of varieties raised from the same seed-pod. Out of a hundred seedlings one must be best, and it is to get that one that we grow the other

ninety-nine. In the same way, and for the same purpose, some amateurs grow a great many thousands of Odontoglossum crispum, with the deliberate intention of discarding them as soon as they flower, if they do not come good beyond the ordinary.

There is in Orchids such a thing as fashion. A man may have an individual taste for a certain class of Orchids, and go on collecting them, and feel happy. If, however, he suddenly discovers that the majority of his fellow growers simply do not care for that class which he sets so much store by, he, perhaps after some heart-searching, looks around him and probably hastens to follow the fashion.

The favourite *par excellence* of the present day is Odontoglossum crispum, and a better one for favourite could not be found. Some people do not care for Cypripediums, others do not care for Dendrobiums, and so on, but everybody cares for crispums. I sometimes wonder what we should have done without our blotched crispum. We ought to be deeply grateful to them for being so rare and for concealing themselves so well; for the unexpected in Orchids is what in a great measure gives them their piquancy. The rarity of blotched crispums in nature suggests work for the hybridist, and I should like to venture a prophesy—that the hybridist will yet produce at home crispums the like of which have never been collected in Colombia.

I will conclude with a few general remarks on the all important subject of culture. If in any doubt as to whether a plant requires potting or only surfacing, pot it. I have no faith in surfacing and do not surface fifty plants a year. Cœlogyne cristata and a few others should only be disturbed as rarely as possible.

Make the most of the summer by bottling up the heat in mid-afternoon in the warm houses, after damping down well, and apply a little air in the evening to remove all sense of stifling, and keep the air in circulation by having a little warmth in the hot-water pipes at night. Never let the fires out in the warm houses at night during the summer, even though it become very hot; it is when it is hottest in the day time that the greatest danger exists. Hot air holds more moisture in suspension than cold air, and when the colder air of night comes condensation takes place. Warm pipes and a little air are the antidote.

Spot on Dendrobiums, on Cattleyas, and on other Orchids is the result of a stagnant, cold night atmosphere following a hot day. I have seen vine leaves grown in the open air in France become mildewed in a single night—a fierce autumn day and a chilly misty night.

Do not encourage growth in the winter. Seedlings that are small must, of course, be kept moving along. A plant, however, which finishes up its bulbs and starts to grow again in the autumn ought not, in my

opinion, to have any encouragement by being kept warmer and wetter than others which have not started. The eye which starts will finish up a small bulb, but the plant will not be exhausted. Lælia purpurata is an exception to this rule, as it grows in winter, and hybrids derived from it will have the same tendency. Do not be afraid to use the syringe all round in summer, but lay it away in the winter. Use rain water only for watering and syringing. Pond water may be just as good—it may even be better in some districts—but make sure that it does not contain lime in any quantity. Orchids do not like lime, nor yet does sphagnum.

If you see a fresh thrip mark do not rest until you are sure that thrip is dead.

Now a word on potting material and I have finished. The potting compost which I have found most serviceable all round is peat and moss in about equal quantities, with a good sprinkling of oak leaves and sand. The leaves we get collected after they fall, and keep dry in sacks. We plunge the sack in water a day or two before we require them for use, and this draws a lot of the tannin and harshness out of the leaves without decomposing or fermenting them. We then mix them up with the peat and moss without cutting or any preparation whatever. Disintegration follows quickly enough through watering and root action. Belgian leaf-mould I do not recommend for large plants, which require a great bulk of it together. I have found it answer very well for seedlings in 2½ to 3½ inch pots.

PAPHIOPEDILUM FAIRRIEANUM AND ITS HYBRIDS.

By FRANCIS WELLESLEY AND R. A. ROLFE.

AN interesting letter has been sent by A. Warburton, Esq., Vine House, Haslingden, accompanied by paintings of the superb hybrids Germaine Opoix and Gaston Bultel, which we now have pleasure in illustrating. Mr. Warburton writes:—"I have a fair number of Fairrieanum hybrids in my collection. P. × Edwardii I have flowered twice. P. × Amesiæ, or Mrs. F. L. Ames, I am expecting to bloom this time from a fine growth such as one expects to see flower. A plant of P. × Arthurianum pulchellum has just produced seven flowers. Another, a division from the larger one, was again divided, one piece going to Messrs. Sander, the other to Messrs. Cypher. The latter obtained a First-class Certificate from the Manchester Orchid Society this year, and was said to be the finest variety yet seen. P. × Niobe, a good variety, I have bloomed several times. P. × Baron Schröder I expect to flower this season, having a nice plant, but the most interesting point is that what you term 'the two superb hybrids raised by M. Opoix at the Jardin de Luxemburg' have been in my collection for some time. Gaston Bultel flowered in September, 1903, and was quite up to the

painting and dried flower in size. Germaine Opoix flowered in September, 1904, and I was also much pleased with this one. In your description you omit to say that in the dorsal sepal a beautiful shade of emerald green is plainly discernible, particularly when the light is upon it. This occurs in both flowers, and is a prominent Fairrieanum character, for I have seen this in flower, and shall not easily forget it. I send you the paintings of Germaine Opoix and Gaston Bultel in case you care to reproduce them. The flowers were seen by several Orchid growers and pronounced to be

Fig. 30. P. × BARON SCHRODER VAR. GERMAINE OPOIX.

the largest and finest Fairrieanum hybrids that have yet appeared."

The history of these beautiful plants was given at page 43, so that there is little further to add beyond a note on the colour. Germaine Opoix has the centre of the dorsal sepal emerald green and the broad margin white, while the markings on the former are dark brown, and on the latter red-purple. The lip and petals are rich brown, passing to light brownish green on the inner halves, and the markings are dark brown, while the staminode is yellowish green. Gaston Bultel has a white ground to the dorsal sepal,

slightly tinged with green in the centre and at the base, while the markings may be described as red-purple, with a zone of darker colour on the lower half. The petals, lip, and staminode have a greenish yellow ground, and the markings are not quite so dark as those of the dorsal sepal. A comparison with the *Revue Horticole* figure, previously cited, shows a very considerable discrepancy, and it is easy to see that the latter is not at all accurate. As previously mentioned, these two very diverse hybrids are out of the same

Fig. 31. P. × BARON SCHRODER VAR. GASTON BULTEL.

seed-pod, and Mr Wellesley writes that a third seedling from the same batch has flowered, and he saw it at the Luxembourg last October. It is called Madame Hustin, and most resembles Gaston Bultel, though it is distinct from it. As previously remarked, they are seedlings from one known as Madame Coffinet crossed with Fairrieanum, and the former, according to the record, is a form of P. × œnanthum, but we have heard the

recorded parentage called in question. They are, however, at present considered as forms of P. × Baron Schröder, which has similar parentage. They are certainly very handsome. It may be interesting to add that plants of both Germaine Opoix and Gaston Bultel have now been acquired for the Westfield collection.

PAPHIOPEDILUM FAIRRIEANUM.

Some interesting news has come to hand since our last issue. *Indian Planting and Gardening* for March 25th makes the following announcement (p. 199) :—

"THE 'LOST ORCHID' FOUND!"

"Every horticulturist in general and Orchidist in particular, all the world over, will be interested to learn that the 'lost Orchid,' Cypripedium Fairrieanum, has been re-discovered. The discoverer is a European, an Englishman ; and he, with Mr. S. P. Chatterji, the well-known florist and nurseryman of Calcutta, have the secret of its natural habitat between them. They have a fine stock ot plants, and will doubtless make the most of them in due course. They will now claim the reward of £2,000, offered by a certain London firm of plant merchants to anyone who would re-discover the 'lost Orchid.' The locality where this Orchid was found remains a profound secret for the present, but suffice it to say that it was *not* found in the Garo Hills, its supposed natural habitat. There is no doubt at all as to the identity of the plant, as it has been submitted to Dr. Prain, Superintendent of the Royal Botanic Gardens, Calcutta, who has pronounced it to be the 'real Simon Pure.' This is probably the most important and sensational announcement that the horticultural and botanical world has received for many years. The plant was lost to the world in 1876, and may be said to be practically extinct in Europe at the present time." It then proceeds to re-produce the history of the plant, as given in our January issue (pp. 11-15), and, commenting on the remark that the history of Cattleya labiata afforded ground for hoping that the present much desired species will ultimately be re-discovered, concludes as follows :—"This hope is now realized, though we are not yet permitted to name the discoverer or the locality where he found it. It will thus be seen that great interest attaches to the re-discovery of Cypripedium (Paphiopedilum) Fairrieanum. In a future issue we hope to give full particulars as to the conditions under which it was found growing, elevation, surrounding vegetation, etc."

It may be added that two subsequent issues have since been received, but they do not contain the promised information, which will be extremely useful when plants arrive in this country.

The event has caused no little stir. On April 14th the *Times* announced the "Rediscovery of Cypripedium Fairrieanum," remarking that from some point in Bhotan came evidence last year which convinced experts at Calcutta that the lost species had at last been found, and that later communications left no room for doubt, though plants could not arrive before the autumn. They also reproduced a summary of the history of the species, as given in our pages. On the following day an account appeared in the *Daily Graphic*, accompanied by a figure, evidently re-drawn from the *Botanical Magazine*, and on April 18th another account appeared in the *Morning Leader*, together with a reproduction of the figure which we gave at page 12. In this account an engineer is said to have discovered a small batch of plants in Bhotan. Then a word of caution appeared in the *Times* from the pen of Mr. Francis Wellesley, who advised enthusiasts not to buy the plant out of flower, unless from a dealer of the highest repute, who would furnish a written guarantee. On April 29th the *Times* further announced that "on the 26th inst. the authorities at Kew were very pleasantly astonished by the receipt of two fine unestablished masses of Cypripedium described as 'unknown species from the Eastern Himalayas,' which they recognised with confidence as C. Fairrieanum." It also added that the plants came from Calcutta. Lastly, on April 29th, the *Gardeners' Chronicle* announced that the reported rediscovery had been "placed beyond doubt by the arrival at Kew of two fine plants, one with twelve, the other with seven 'leads,' and in as perfect health as if they had been there for months." It also added that "the Kew examples might be mistaken for C. insigne did they not bear the unmistakeable slender hairy scape, which, by the way, is a foot long, the ovate bract, and purple ovary of C. Fairrieanum."

The following letter was received by the Editor of the *Morning Leader*, and forwarded to us (we omit the name and address):—"I saw in your paper of Tuesday (April 18th) the report of the Lost Orchid (Cypripedium Fairrieanum) I am in possession of one of that kind which I would dispose off at a price if you are in want of one or know anyone that require, it is a beautiful flower throwing five blossoms you might send me word if you (or anyone you know) would like to see it and I will send you back the address where it is and oblidge yours truly ——

"P.S.—You might send me the address of someone who require it if you are not in want of it."

We diplomatically replied, asking the price it was offered at, and requesting that one of the flowers should be sent, as we could hardly buy it

without seeing it. Over ten days have since elapsed without any reply, and we consider that comment is needless.

The appearance of flowers will now be awaited with impatience, but we believe the Kew plants to be authentic. Habit ; the shape, veining, colour and texture of the leaves; the slender scapes, and even the microscopic texture of the hairs of the scape, are all exactly in agreement with authentic specimens. Further evidence may soon be forthcoming.

ORCHIDS AT KEW.

THE presence of flowering examples of the remarkable Cymbidium rhodochilum and of a rival to the gigantic Lissochilus giganteus would add lustre to any Orchid collection, and both are now in bloom at Kew, where may be seen a fine display of the usual showy species of the season, together with numerous interesting botanical rarities. The Cymbidium is producing a fine spike, of which the three first flowers are expanded at the moment of writing, and the bright red lip and green sepals and petals spotted with black form a contrast which is not seen in any other Orchid that we remember. The Lissochilus is a new species, named L. Mahoni, Rolfe, and stands in the tank in the Victoria house, where, being over eight feet high, it is rather out of reach. The tubers were sent from the Botanic Gardens, Entebbe, Uganda, in 1902, by Mr. J. Mahon. In growth it resembles a large Phaius, and the scape bears at the apex a raceme of about thirty flowers, over half of which are now expanded. The petals are erect, and lilac-purple in colour, the sepals much smaller, brown, and reflexed, and the lip green, marked with brown on the side lobes, purple at the apex, and the large and prominent crest light yellow. It has been grown in a warm house, in a mixture of yellow loam, leaf-mould and sand.

A fine plant of the old Ansellia africana is producing six large branched panicles, crowded with flowers, and is very effective, while near by are examples of A. nilotica and A. congoensis. A fine plant of Epidendrum ciliare is bearing seventeen spikes, and among other Epidendrums are several examples of the salmon-coloured E. × kewense, with its parents—the deep purple E. evectum and the bright yellow E. xanthinum—examples of E. × O'Brienianum, also raised in the collection, the orange-scarlet E. radicans, E. Wallisii, the ivory white E. chioneum, E. Hartii, E. elongatum, E. × elegantulum, and E. glumaceum. Cattleya is represented by several good examples of the fragrant C. Schrœderæ, C. Schilleriana, C. Loddigesii, C. Lawrenceana, C. citrina, and a good C. intermedia ; other

allied plants being the brilliant orange Lælia harpophylla, Lælio-cattleya × highburiensis, Brassavola nodosa, Epiphronitis × Veitchii, Broughtonia lilacina, and a well-flowered plant of the charming little Leptotes bicolor.

Dendrobium is well represented, and includes a fine specimen of D. chrysotoxum with eighteen racemes, the striking bronzy-brown D. undulatum with six, a good plant of D. atroviolaceum, D. Devonianum profusely flowered, the allied D. Loddigesii, a dwarf Chinese species, D. luteolum, D. Parishii, D. superbum, D. Findlayanum, D. dixanthum, D. tortile, D. Boxallii, D. albosanguineum, D. crystallinum, D. Kingianum, both pink and white, D. Pierardi, D. nobile, the singular little D. hercoglossum, D. fimbriatum oculatum, and D. primulinum, forming a very interesting series.

Cynorchis × kewensis is a very pretty hybrid, between C. Lowiana and C. purpurascens, raised in the collection, of which about eighteen spikes are in flower or bud, the colour being bright rose-purple. Eulophia delicata (Rolfe) is an interesting novelty from the Shan States, allied to E. nuda, but having a longer acute spur. One form has light rose-purple flowers with a yellow disc to the lip, the other is blush pink, with a yellowish white lip. Other interesting things are the bright yellow Ipsea speciosa, Spathoglottis × aureo-Veillardii, Phaius × Cooksoni, a good example of Diacrium bicornutum, Cyrtopodium Andersoni, Cœlogyne tomentosa, C. Massangeana and C. flexuosa, Arpophyllum spicatum, Maxillaria Sanderiana and other interesting things.

Oncidium is represented by some good O. Kramerianum and the bright yellow O. concolor, O. sarcodes, the graceful O. phymatochilum, O. Marshallianum, O. superbiens, two good examples of O. leucochilum, O. altissimum, and the curious little O. exasperatum, one of the Cimicifera group. Trichopilia sanguinolenta is bearing three of its handsome flowers, while Miltonia Rœzlii with its white variety, and the rare Lockhartia Wiegeltii are also in bloom.

Among the Cypripedes some interesting things are in flower, including the rare Bornean Paphiopedilum nigritum with six blooms, some good P. Mastersianum, P. Rothschildianum, P. virens, P. Lowii, P. ciliolare, P. barbatum, P. Lawrenceanum, and the two allied species P. exul and P. Gratrixanum, together with Phragmopedilum Rœzlii, × Sedeni, × grande, × Dominianum, and × Titanum. In the same house are also the rare Sarcochilus Berkeleyi, Aërides Houlletianum, Angræcum Scottianum, the rare A. descendens, Vanda cristata, and some good V. tricolor and V. teres.

In the Cool house is a plant of the handsome Chilian Chloræa virescens, having deep yellow flowers marked with green, Lycastes Skinneri,

cochleata, and crinita, the two latter deep yellow, some good Cymbidium Lowianum, Satyrium bicorne and emarginatum, the Japanese Calanthe discolor, the South African Polystachya pubescens, some good Odontoglossums, including forms of crispum, Pescatorei, cirrhosum, triumphans, Hallii, luteopurpureum, × Andersonianum, × Coradinei, Cervantesii, maculatum, Œrstedii, and the orange-coloured O. retusum, some good Ada aurantiaca, Masdevalia coccinea, M. ignea, M. × Fraseri, M. × Curlei, M. Chimæra, &c.

Among interesting botanical species may be mentioned a well-flowered example of Physosiphon Moorei, Goodyera procera, Mormolyce lineolata, some species of Stelis and Pleurothallis, Restrepia ophiocephala, Scaphosepalum swertiæfolium, Masdevallia tridactylites, Chestertoni, and several others; Pholidota imbricata, the rare Eulophia Lubbersiana, Megaclinium falcatum, Bulbophyllum fuscum, Spiranthes picta, Pelexia maculata, Eria amica, Microstylis Scottii, Maxillaria variabilis, both purple and yellow, M. flava, and numerous others. The plants thrive exceedingly well in the new houses, and from the richness of the collection it follows that there is a good show of bloom throughout the year.

DENDROBIUM LICHENASTRUM.

A VERY remarkable little Orchid, received with others from Queensland, has just flowered in the collection of Sir Charles Strickland, Bart., Hildenley, Malton, apparently for the first time in Europe. It was described by F. Mueller, in 1869, under the name of Bulbophyllum Lichenastrum, (*Fragm.*, vii., p. 60), but "Dendrobium lichenastrum" was also given as a synonym, and this latter is the correct name, for the plant proves not to be a Bulbophyllum, but a Dendrobium, of the section Rhizobium. The original specimens were collected by Dallachy, on rocks and stones, at Seaview Range, Rockingham Bay, Queensland. It is well figured by Fitzgerald in his *Australian Orchids* (ii., pt. 5, with plate), and Bailey afterwards added the locality, on the branches of tall trees on mountain ranges near Cairns (*Queensl. Fl.*, v., p. 1537). It is a tiny little plant, probably the smallest Dendrobium known, for it is barely an inch high, and the whole clump figured by Fitzgerald, showing a dozen flowers and buds, might be grown on the top of a tea-cup. It closely resembles D. linguiforme (*O.R.*, xii. p. 137, fig. 23) in habit, but the scapes are single-flowered, scarcely over half-an-inch long, and the flowers about four lines long. The sepals and petals are yellowish white, the former bearing three longitudinal reddish purple nerves, and the latter one; while the lip is entire, rather fleshy, and somewhat purple at the base. The rhizomes are stout, creeping, and not pseudobulbose, while the leaves are very fleshy, subterete, ovoid to oblong

in shape, and three to eight lines long. Dallachy's original specimens have much shorter leaves than in the others mentioned, and are surrounded at the base by a fringe of fibres, which are the remains of the sheaths. It is curious that the plant should ever have been referred to Bulbophyllum, for it has neither the mobile lip nor the column teeth of that genus, while the shape of the flower is wholly that of Dendrobium. It is, however, quite anomalous in habit, like its nearest allies D. linguiforme, D. cucumerinum, and the species mentioned in the succeeding note.

DENDROBIUM RIGIDUM.

FOR a long time this had to be ranked among "lost" species, for though described by R. Brown in 1810 (*Prodr. Fl. Nov. Holl.*, p. 333), from a drawing in the Banksian collection, nothing further was known about it when Bentham wrote his *Flora Australiensis*, and he was only able to add the original locality, as "Endeavour River, Queensland, collected by Banks and Solander" (vi., p. 285). Fitzgerald at length obtained a plant, through Sir William Macarthur, and figured it in his *Australian Orchids*, (i., pt. 4, t. 7). More recently it has appeared in cultivation, having been found in the collection of Mr. Partington, cultivated under the name of D. linguiforme—with which presumably it may have been imported. It was presented to Kew, where it flowered in June 1890, but at the time was not identified. It bears a considerable resemblance to D. linguiforme in habit, but the stems are rather longer, and the leaves more acute and not so thick. The sepals and petals are broader, not acuminate, and the colour light whitish yellow, sometimes with a little purple stain towards the apex; while the front lobe of the lip is yellow, spotted or marked with brown, and the side lobes whitish, striped with light purple. Bailey remarks that the species is met with at the Daintrees and a few other northern localities (*Fl. Queensl.*, v., p. 1533.)

There are two other Australian Dendrobiums which have hitherto remained mysterious, but in working up the preceding I have found a solution of the difficulty.

D. CALEYI (A. Cunn in *Hook. Comp. Bot. Mag.*, ii., p. 377), based on D. pygmæum, A. Cunn. M.S.S., 1824, a plant found in New South Wales by the botanical traveller Caley, proves to be Bulbophyllum exiguum, F. Muell. Cunningham's type specimen is preserved at Kew, though not accounted for by Bentham in his *Flora Australiensis*. Thelychiton argyropus (*Endl. Iconogr.* t. 1616; Bulbophyllum argyropus, Rchb. f. in *Linnæa*, xli., p. 42), also not accounted for, is the same plant.

D. ? CRASSULÆFOLIUM (A. Cunn. ex *Lindl. Bot. Reg.*, 1839, Misc., p. 33), is said to be a plant growing on trees in ravines of the Blue

Mountains, never seen in flower; the pseudobulbs oval and one-leaved, and the leaf, small and oval. It proves to be Bulbophyllum Shepherdi, F. Muell. A coloured drawing by A. Cunningham is preserved at Kew, and although it is without flower the habit of the plant agrees perfectly, and the locality is identical. The species is well figured by Fitzgerald (*l.c.*, i. pt. 5, t. 10), and the author remarks:—"B. Shepherdi was at one time known in New South Wales under the name of Wheat-leaved Bulbophyllum, which indicated the form of the leaves as resembling grains of wheat, and it certainly was most appropriate. It grows in dense clumps upon rocks, and is often half hidden by moss and the pretty little fern Hymenophyllum tunbridgense. The size of the leaves differs considerably in different situations. Their light green colour alone attracts attention, the little white flowers being hidden beneath them." This singular little plant flowered recently in the collection of Sir Charles Strickland.—R. A. ROLFE.

HIGH PRICES FOR RARE ORCHIDS.

A SALE by auction of rare and duplicate Orchids from the collection of Mr. W. Thompson, of Walton Grange, Staffordshire, took place at Walton Grange on April 16. Messrs. Protheroe and Morris, of London, were the auctioneers. The following were among the higher prices realised by the Odontoglossums:—Odontoglossum crispum The Earl, four strong bulbs and one growth, 150 guineas; crispum heliotropium, two bulbs showing flower spike, 90 guineas; crispum Stevensii, two bulbs, one of which is carrying a flower spike (probably the only piece obtainable of the original plant), 60 guineas; crispum variety Queen Victoria, two extra strong fine bulbs, one strong break, 200 guineas; crispum Robert McVitie, two bulbs with leaves, 200 guineas; crispum Capartianum, two bulbs, both with leaves, 65 guineas; crispum Thompsonianum, two large bulbs, one showing spike, 270 guineas; crispum Queen Empress, two bulbs, one growth, 65 guineas; crispum Victoria Regina, three bulbs, one lead, 90 guineas; crispum Annie, two bulbs, one lead, 100 guineas; Solum, one bulb, one strong growth (pronounced to be one of the most remarkable and distinct crispums in cultivation), 220 guineas; crispum Luciani, one old bulb, one very strong growth (a fine plant of this grandly formed, heavily blotched crispum), 360 guineas; crispum variety Queen Victoria, two nice bulbs, one lead, 100 guineas; crispum Lindeni, two strong bulbs, one strong lead (a fine healthy plant of this well-known variety), 240 guineas; crispum heliotropium, three bulbs, very strong growths, 65 guineas; maculatum Thompsonianum, four strong bulbs, 270 guineas; crispum Annie, two bulbs, one growth, 85 guineas; crispum The Earl, four bulbs and growth, 75 guineas.—*Manchester Courier.*

ODONTOGLOSSUM CRISPUM VINE HOUSE SEEDLING.

SEEDLINGS of Odontoglossum crispum have attracted great attention of late, as witness those figured at pp. 10 and 112 of the present volume, and now we are able to illustrate the handsome Vine House seedling, from the collection of A. Warburton, Esq., Vine House, Haslingden, which was noted on p. 70 as receiving a Vote of Thanks from the Manchester Orchid Society on February 2nd. The parents were a rosy form of O. crispum crossed with the pollen of O. c. Lindeni, which is well known as a dark heavily blotched form. The seedling only produced two flowers on a slender scape at its first attempt, and will doubtless improve

Fig. 32. O. CRISPUM VINE HOUSE SEEDLING.

considerably when the plant becomes strong. The flower is reproduced natural size from a painting by Macfarlane, and those who know Mr. Macfarlane's work will be able to judge of its accuracy. As regards the shape and markings nothing need be said, as the figure speaks for itself, but a note on the colour is necessary. The ground colour is pure white, while the blotches on the sepals are chestnut brown, and those on the petals much darker, or what may be termed almost crimson brown. The markings on the lip are of a somewhat intermediate shade, and the disc yellow. It will be interesting to see what other seedlings from the same batch are like—if there are others—for the present seedling cannot be said to resemble either parent very closely.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of this Society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on April 11th, when there was a very good display of Orchids.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), sent a very interesting group, including the rare Masdevallia deorsa, Miltonia × Bleuana nobilior, a fine form of Lælio-cattleya × Myra, Leptotes bicolor, Epicattleya × Gaskello-Parkinsoni, Pleurothallis Grobyi, the graceful little P. astrophora, and several Epidendrums, as E. evectum, the rare and handsome E. × Ellisii, E. Schomburgkii, E. Linkianum, E. × O'Brienianum superbum, and E. × radico-xanthinum. A First-class Certificate was given to Odontoglossum ramosissimum Burford var., a fine white form, spotted with purple on the basal halves of the segments. The panicle bore about eighty flowers.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), received a First-class Certificate for Odontoglossum × Wiganianum (× Wilckeanum × Rolfeæ), a large and very handsome hybrid, having flowers of excellent shape, and bright yellow colour, with large red-brown blotches on the sepals, many smaller spots on the petals, and the lip yellow in front, white behind, and some purple spots about the middle.

Jeremiah Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), received an Award of Merit for Epidendrum × Boundii (radicans × Burtoni), of which a group of plants was shown bearing over sixty heads of flower, varying in colour from orange to shades of scarlet. It is a most floriferous hybrid, and it is said that the plants had been in flower since October last, and in some cases after cutting the original inflorescence new heads of flower were produced.

Captain G. L. Holford, C.I.E., Westonbirt, Tetbury (gr. Mr. Alexander), received an Award of Merit for Dendrobium fimbriatum oculatum Westonbirt var., a very large-flowered form, having rich orange-yellow flowers, with the usual dark blotch on the deeply-fringed lip.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), received an Award of Merit for Odontoglossum crispum Britain's Queen, a fine fringed form, tinged with lilac in front and purple at the back, and blotched with rose-purple on both the sepals and petals.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. Day), staged a good group, to which a Silver Flora Medal was awarded. It contained some good forms of Phaius × Norman, P. Sanderianus, two specimen plants of Cymbidium Lowianum, a good Chysis bractescens, Oncidium concolor, some good forms of Cattleya Schrœderæ, C. Trianæ, C. Mendelii, C.

intermedia nivea, a large light form of C. Warscewiczii, Dendrobium atroviolaceum, Epidendrum × elegantulum, some good Odontoglossum crispum, Cypripedium Argus, C. tonsum, and others.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent Cattleya amethystoglossa Westfield var., a good dwarf form bearing blush white flowers, regularly spotted with purple on the sepals and petals.

Messrs. Sander & Sons, St. Albans, staged a choice group, which gained a Silver Flora Medal. It contained some fine hybrid Odontoglossums raised at their Bruges establishment, O. × crispo-Harryanum King Edward being specially remarkable, having cream-white flowers, over five inches across, heavily marked with rose-purple in front and darker behind. It was raised from O. crispum spotted var. × O. Harryanum, and the reverse cross, called O. × Harryano-crispum Jewel, was another very handsome form. Other fine things were O. × Wilckeanum Japan, and O. × amœnum Sander's var. (Pescatorei × sceptrum), the latter, a fine cream-white form prettily blotched with purple brown, gaining an Award of Merit. A similar award went to Zygopetalum discolor atrocœruleum, a large form having cream-white sepals, petals tinged with lilac-blue, and a broad violet-blue lip with some white on the crest. Other interesting things were some good Cattleya Schrœderæ, Maxillaria Sanderiana, some good Lycaste Skinneri, Eulophia Lubbersiana with prettily variegated leaves, Phaius hybrids, a good clump of Dendrobium capillipes, &c.

Messrs. Charlesworth & Co., Heaton, Bradford, also received a Silver Flora Medal for a fine group, including a fine series of Lælio-cattleya × Cappei, some good L.-c. × Mercia, L.-c. × Wellsiana, L.-c. × Myra, some good Cattleya × Empress Frederick, C. × Enid, the beautiful white Brassocattleya × Digbyano-Mossiæ Queen Alexandra, and others, Masdevallia Schrœderiana, some good Odontoglossum crispum and O. × Harryano-crispum, the bright yellow O. Lindenii, two good Brassia brachiata, a fine plant of Caryanthes speciosa with three buds, Dendrobium × Apollo album, and other Dendrobiums, Cypripediums, &c.

Messrs. Hugh Low & Co., Bush Hill Park, obtained a Silver Banksian Medal for a showy group, including some good Odontoglossum crispum, Cattleya Trianæ, C. × Lawre-Mossiæ, C. Lawrenceana with twelve flowers, Oncidium barbatum, the handsome Trichopilia suavis, Dendrobium Falconeri giganteum, Angræcum citratum, a well-flowered Eria obesa, Cypripedium × Olivia, C. × vexillarium, C. Lawrenceanum Hyeanum Vanner's var., and others.

Messrs. Cutbush & Sons, Highgate Nurseries, sent Calanthe discolor aurea, a Japanese Orchid with greenish yellow flowers, said to be hardy. They also included numerous hardy Orchids in a well-arranged rockwork group of alpine and other plants, to which the Floral Committee awarded a

Gold Medal. Prominent among them were Cypripedium Calceolus, C. spectabile, C. acaule, the remarkable little C. debile, Bletia hyacinthina, Calanthe discolor, &c.

AT the meeting held on April 25th there was a very good display of Orchids, which with one exception came from amateurs' collections.

N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Chapman), staged a choice group of Odontoglossums, to which a Silver-gilt Flora Medal was given. It contained good forms of O. sceptrum and triumphans, O. Pescatorei and a fine white form of the same, a good O. × Adrianæ, and some well-grown forms of O. crispum, beside several choice varieties, as O. c. Grairianum, now very finely developed, and the greater part of the segments of a peculiar blend of orange-brown and rosy purple, rather difficult to describe, O. c. Bryan, a very fine form, heavily blotched on all the segments with rich purple, arranged somewhat in a zone, O. c. Britannia, also very heavily blotched with dark purple, O. c. Frederick, a large white form tinged with rose and blotched with purple, and O. c. Smeeanum, a large light rose-pink flower, regularly spotted with cinnamon brown on the inner halves of the segments. An Award of Merit was given to the latter. A good Cattleya Schrœderæ alba was also noted.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), staged a large and very rich group, which gained a Silver-gilt Flora Medal. It contained some good forms of Odontoglossum crispum, O. luteopurpureum Secundum Nulli, a richly-coloured O. × Vuylstekei, O. Hunnewellianum, a remarkably fine Oncidium concolor, having a panicle with three branches, two good examples of the charming O. leucochilum, the rare O. pulchellum, the rich yellow O. Lucasianum, Dendrobium revolutum, the handsome Trichopilia suavis, Epidendrum sceptrum, some good Miltonia vexillaria, M. Roezlii, and M. R. alba, the rare Galeandra Devoniana, Cynorchis × kewensis, two forms of Colax jugosus, Zygopetalum × Perrenoudi, Trigonidium spathulatum, the rare Sarcochilus Fitzgeraldi, Brassia maculata, Cattleya intermedia Lowryana with slate-blue lip, some good forms of Cattleya × Schrœderæ, Cypripedium Mastersianum, the striking C. Sanderianum, and others, forming a very interesting and varied exhibit.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), staged a pretty little group, to which a Silver Banksian Medal was given. It contained a good Odontoglossum triumphans latisepalum, O. × Edwardii, O. polyxanthum, O. cirrhosum, O. gloriosum, O. × Andersonianum, the prettily spotted O. crispum Mabel, a good O. × Wilckeanum, O. × warnhamense (Hallii × Pescatorei), an interesting hybrid which is described on page 157, the richly coloured Ada aurantiaca, Lælia harpophylla, Cypripedium × Chamberlainianum, &c.

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whitelegge), sent the handsome Brassocattleya × Digbyano-Schrœderæ, Cattleya × Empress Frederick var. xanthoglossa, C. Schrœderæ var. Robin, a charming white form tinged with lavender, and bearing a violet-purple blotch in the centre of the lip, the latter receiving a First-class Certificate.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), received a First-class Certificate for Brassocattleya × nivalis (B. fragrans × C. intermedia), a fragrant and very pretty hybrid, having white flowers with a primrose disc to the lip. The plants bore two spikes of six and five flowers.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), also received a First-class Certificate for Odontoglossum × Thompsonianum (Edwardii × crispum), bearing a tall branched inflorescence, of which only a single flower had expanded. It was most like O. crispum in shape, 2½ inches in diameter, and rich claret purple, with rosy tips and margins to the segments, and a deep yellow crest to the lip.

The Marquis de Wavrin, Chateau de Ronsele, Somerghem, Belgium (gr. M. Gerard de Geest), sent Cattleya Schrœderæ alba var. Madame Louis de Hemptinne, a beautiful albino having a yellow throat to the lip. A First-class Certificate was awarded.

Miss Wilmott, Great Warley, Essex (gr. Mr. Preece), received a Botanical Certificate for the rare Oncidium Brienianum, Rchb. f., allied to O. pubes, and having dense spikes of flowers, with some red-brown on the lip.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent a form of Odontoglossum crispum, and the charming O. Rossii immaculatum.

Mrs. Haywood, Woodhatch, Reigate (gr. Mr. Salter), sent a pretty spotted form of Odontoglossum crispum.

G. F. Moore, Esq., Bourton-on-the-Water (gr. Mr. Page), sent the handsome Lælio-cattleya × Pallas magnifica.

G. W. Nicol, Esq., Banchory (gr. Mr. Andrew), sent a spike of a good spotted Odontoglossum crispum.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), sent Odontoglossum crispum Queen's Birthday, a handsome form evenly blotched with dark claret-colour.

W. C. Walker, Esq., Winchmore Hill (gr. Mr. Bunney), sent Odontoglossum coronarium with a good spike of flowers.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent Lælia × Mrs. Gratrix Westfield var., a richly-coloured form, and Cypripedium × Gowerianum giganteum.

Messrs. Sander & Sons, St. Albans, sent a fine group, to which a Silver Flora Medal was awarded. It contained some good Odontoglossum ×

Harryano-crispum, an exceptionally fine O. × Wilckeanum, two good Miltonia × Bleuana raised at Bruges, Cypripedium glanduliferum, the singular C. × Harrisianum albens, C. × Masterso-callosum, Cattleya intermedia alba, Angræcum Sanderianum, Lælio-cattleya × Ruby Gem, L.-c. × Dominiana, Vanda suavis, Cœlogyne tomentosa, Phaius × Cooksonæ (grandifolius × Humblotii), Masdevallia × Pourbaixii, Eulophia Saundersiana, Polystachya cerea, P. rufinula, and other interesting things.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on March 16th, when there was a very fine show of Orchids.

John Leemann, Esq., Heaton Mersey (gr. Mr. Edge), received a First-class Certificate for the handsome Lælio-cattleya × luminosa var. Aurora, and a Vote of Thanks for an interesting group.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), received a First-class Certificate for the richly marked Odontoglossum × Rolfeæ var. meleagris.

S. Gratrix, Esq., Whalley Range (gr. Mr. Cypher), received an Award of Merit for Odontoglossum × ardentissimum West Point var.

Dr. Hodgkinson, The Grange, Wilmslow (gr. Mr. Woore), also received an Award of Merit for Dendrobium macrophyllum album.

Dr. Roberts, Altrincham, staged a fine group of Dendrobiums, which gained a Silver Medal.

A. Warburton, Esq., Haslingden, received a Bronze Medal for an interesting group.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a choice group of hybrids, which gained a Silver Medal, while First-class Certificates went to Odontoglossum × amabile and Brassocattleya × Digbyano-Trianæ × Heaton var.

Messrs. J. Cypher & Sons, Cheltenham, received a Silver-gilt Medal for a very fine group, in which the Dendrobiums were especially good.

M. Ch. Vuylsteke, Loochristi, Ghent, obtained a First-class Certificate for Odontoglossum × Lawrenceanum, and an Award of Merit for O. × percultum.

Messrs. Stanley & Co., Southgate, received Awards of Merit for Cypripedium × pulchrum and Cattleya Mendelii var. Diana.

Votes of Thanks were accorded to Messrs. Keeling, Mitchell, Sander, and Wright for interesting groups.

At the meeting held on March 30th there was again a very good display.

W. Thompson, Esq., Stone (gr. Mr. Stevens), received a Silver Medal

for a choice group, and Awards of Merit for Odontoglossum × waltonense and O. crispum var Clio.

S. Gratrix, Esq., Whalley Range (gr. Mr. Cypher), obtained a First-class Certificate for Dendrobium × Queen Alexandra.

E. Rogerson Esq., Didsbury (gr. Mr. Blomley), received a First-class Certificate for Odontoglossum crispum Oakdene Surprise.

Messrs. Charlesworth & Co., Heaton, Bradford, received a Silver Medal for a choice group, a First-class Certificate for Odontoglossum × Wilckeanum princeps, and Awards of Merit for O. c. var Mabel and O. × Lairessei.

Mr. S. Allen, Sale, received a Cultural Certificate for some well-grown plants of Dendrobium nobile.

Votes of Thanks were also accorded to O. O. Wrigley, Esq., Bury, for a fine group of Lælia Jongheana, and to Messrs. Law-Schofield, Cypher, Keeling, Low, and Sander for good miscellaneous groups.

PHAIUS TETRAGONUS AND P. LURIDUS.

IN January last Messrs. Charlesworth & Co. sent to Kew for determination a flower of a Phaius, which was identified as the Mauritian P. tetragonus. No clue was given to the locality, and, as I had long suspected the Cingalese P. luridus to be identical, information as to the habitat was requested. Messrs. Charlesworth then stated that the plant came from Ceylon, at the same time sending a good pencil sketch. I had not previously seen the Ceylon plant alive, but there can no longer be any doubt that the two are identical.

PHAIUS TETRAGONUS, Rchb. f. (*Bonplandia*, 1855, p. 221) was based upon Epidendrum tetragonum, Thouars (*Orch. Iles Afr.*, tt. 33, 34), a native of Mauritius and Bourbon, of which plant Lindley had made a distinct genus, under the name of Pesomeria tetragona, when it flowered with Messrs. Loddiges in 1838. A good figure appeared in the *Botanical Magazine* (t. 4442) under the latter name, and soon afterwards the plant appears to have been lost to cultivation. The species has also been found in the Seychelle Islands, by Horne, in the forests of Mahé, where it is said to be "not common." Bojer and Ayres both met with it in Mauritius, the former at Plaines Wilhelm and round Grand Bassin; and more recently a good drawing has been sent from Mauritius by J. M. Duncan.

Phaius luridus was described by Thwaites, in 1861 (*Enum. Pl. Zeyl.*, p. 300), as a native of Rakwane, in the Saffragan district of Ceylon, and Sir J. D. Hooker adds the localities Pasdun Korale, Reigam Korale, and Hewesse, the general distribution being given as "moist region in the low country, rare" (*Handb. Fl. Ceyl.*, iv., p. 173). I do not find any account of its previous introduction.

Mr. J. O'Brien has since written a note about this plant (*Gard. Chron.*, 1905, i., p. 213), remarking that he cannot find any verification of the Mauritius region record, and suggesting that if Pesomeria tetragona really came from the Island of Bourbon it might have been introduced there from Ceylon. He also suggests that the Mauritian Epidendrum tetragonum is something different, but both these difficulties are removed by the above remarks. The reason for the *Index Kewensis* reduction to Phaius villosus, Blume, also alluded to, cannot be traced in any of the books, and may be a mere copyist's blunder. It is incorrect in any case.

This curious distribution of Phaius tetragonus is not an isolated case, for treatises have been written on "Lemuria," a hypothetical sunken continent, formerly supposed to connect Madagascar with Ceylon and the Malay Islands (see Wallace, *Island Life*, pp. 394-399), and the analogous facts among Orchids may be taken as a contribution to that interesting question.

Eulophia pulchra, Lindl., is a well-known Madagascar species, originally described by Thouars under the name of Limodorum pulchrum. It has also been collected in Johanna Island by Sir John Kirk. I cannot distinguish from it E. macrostachya, Lindl., a native of the Central Province of Ceylon, and of the Travancore and Nilghiri Hills of South India, and I have seen plants from both countries alive. Liparis disticha, Lindl., is a native of Mauritius, Bourbon, Ceylon, Burma, and along the Malay Archipelago to Timor. Polystachya zeylanica, Lindl., a native of Ceylon, is very nearly allied to P. mauritiana, Lindl., from Mauritius, Madagascar, and the Seychelles. The two are considered synonymous by Reichenbach and S. Moore, but I doubt their complete identity. The Indo-Malayan genus Agrostophyllum has a single outlying species in the Seychelles (A. seychellarum, Rolfe), while Oberonia has one widely diffused in the Mascarene Islands (O. brevifolia, Lindl.), as well as two or three Polynesian and Australian representatives. Another characteristic Indo-Malayan genus, Cirrhopetalum, has a single outlying species found in Mauritius, Madagascar, the Seychelles, and in several Polynesian localities, and has been confounded with a Malayan plant. Conversely the African and Mascarene Mystacidium has a single outlier in Ceylon (M. zeylanicum, Trimen), Angræcum one in China and Japan (A. falcatum, Lindl.), Satyrium one in Ceylon and also widely diffused in India (S. nepalense, Don), and Disperis one Ceylon species (D. zeylanica, Trimen), and an allied one in the Nilghiri Hills (D. neilgherrensis, Wight). Numerous parallel cases could be traced in the distribution of other plants, and whatever may be their precise significance, they afford good grounds for believing that at a comparatively recent period there was here a much better highway for plant distribution than at present.

R. A. ROLFE.

PAPHIOPEDILUM × LEONIÆ VAR. CRAVENIÆ.

THE annexed figure represents a magnificent hybrid between Paphiopedilum callosum and P. insigne Harefield Hall var., from the collection of J. F.

Fig. 34. PAPHIOPEDILUM × LEONIÆ VAR. CRAVENIÆ.

Craven, Esq., The Beeches, Keighley, Yorks. (gr. Mr. F. Corney), to which an Award of Merit was given by the R. H. S., on February 14th last, under

the name of Cypripedium × Leoniæ var. Craveniæ (see p. 75). It differs from the type in its great size, and this is due to the fact that the insigne used was the gigantic Harefield Hall variety, the influence of which parent is indeed very marked all over the flower. The callosum character is best seen in the modified colour, and in the foliage. We are indebted to Mr. Craven for a very beautiful photograph, and for the loan of the block here reproduced. The Harefield Hall variety of insigne is evidently a promising plant for the hybridist.

CALENDER OF OPERATIONS FOR MAY.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THIS will be a very busy month. Plants in all departments are now making new growth, and no time should be lost in giving them encouragement to grow briskly. To assist in bringing this about, the Summer temperatures should be now strictly adhered to. The figures which we shall endeavour to maintain as nearly as possible, when outside conditions are genial and summer-like, are given below, but should a spell of cold, inclement weather prevail, like that experienced during last month, rather have a few degrees lower than use an excessive amount of fire heat.

COOL HOUSE.—By day, as low as possible; night, 55° to 60°; morning, 55° to 58°.

INTERMEDIATE, CATTLEYA, AND MEXICAN HOUSES.—By day, 70° to 80°; night, 65° to 70°; morning, 60° to 65°.

WARM HOUSE.—By day, 75° to 90°; night, 75°; morning, 70° to 75°.

Cool-house Orchids are very soon injured by heat, and must now be kept as cool as possible. Should the outside conditions be hot or very dry, it is best to use the top ventilation with discretion during the heat of the day, but taking care to use them freely during the night. The temperature should be kept down in the daytime by heavily shading; removing the same when the sun has lost its power in the evening, and, by a frequent use of the hose-pipe, thoroughly damping down every available space. Lattice-work blinds raised a few inches from the glass has the advantage of keeping the house much cooler than tiffany blinds. No plant in this department should suffer from drought, but, on the other hand, should not be kept in a sodden condition. A slight spraying overhead may be given with advantage after a day's sun, using soft water for this purpose only.

The potting and top-dressing of Cattleyas and Lælias should be proceeded with as each individual member advances into a proper condition to be operated upon, carrying out the principles advocated in previous Calendars. I find very often that Cattleyas and Lælias are frequently denied sufficient heat during the growing season. It is then that these

species delight in a liberal treatment, and an abundance of moisture must be given in the atmosphere, and the plants themselves well watered. It is necessary to shade many of them from the scorching rays of the sun, as stated in previous Calendars, though as much light should be given them as possible. Sun heat is very beneficial at this period if well tempered with free and unstinted ventilation. The blinds should be removed sufficiently early in the afternoon and the house thoroughly damped down, the plants slightly sprayed overhead with soft water, and the ventilation reduced according to the weather. If mild, it is best to leave some air on all night, as cool nights and hot days is the natural order of things in their native habitats.

For the Warm House a little fire heat will still be required during the night, and perhaps also by day, and, if the weather should be cold and unseasonable, a little may also be used with advantage in the Intermediate Houses. Keep a sharp look-out for thrips and other insect pests, preventing their increase by timely fumigation. Heat and moisture are quite indispensable for Dendrobiums and other East Indian Orchids. The former should now be in active growth, and all necessary work in the way of repotting or top-dressing finished. Many species of Orchids luxuriate under exactly the same conditions as Dendrobiums, and if the house is large enough may be placed with them. I mean such species as delight in heat if coupled with light and air, the last-named conditions being as essential as the first. Amongst these are the deciduous Calanthes, Coryanthes, Stanhopeas, Cyrtopodiums, Chysis, and Spathoglottis, also Catasetums, Mormodes, and Cycnoches, which should be placed in a light, airy position. Vanda teres should be grown in full sunlight if possible, and kept well syringed, also Vanda Hookeriana. On the stages, or in some other shady place, should such exist, will grow the usual class of East Indian Orchids, such as Phalænopsis, Saccolabiums, Aërides, Cypripediums, also Angræcums, Pescatoreas, Bolleas and others. Some of the Oncidiums also grow well in heat, as O. carthaginense, O. Cavendishianum, O. Lanceanum, O. Papilio, O. Kramerianum and O. splendidum.

Cymbidiums should be repotted if necessary this month, as soon as they pass out of flower. One of the first to have attention is C. Lowianum. The flowering period of this species extends from about the middle of March to the end of April, or later, according to the length of time the flower spikes are allowed to remain on the plants. Plants in a vigorous condition will need repotting about every third year, top dressing to these being of little use, and difficult to carry out if decided upon. The compost may consist of two parts each of good fibrous loam and peat, obtained in as lumpy a condition as possible, one part of decayed cow-manure, partially dried before using, and sufficient silver sand to keep the whole porous. Select a

pot of suitable size and give plenty of drainage ; also see that the compost is rammed in fairly firm. For quite a week or so no water should be given those repotted, and when applied should only be through a rose until the surface has settled. When sufficient time has elapsed for the new roots to enter the fresh soil, water may be given more frequently, but when grown in a cool, moist atmosphere it is surprising how long they will go without a fresh supply at the root. Towards the autumn, when the bulbs are waking up, waterings may be given alternately with dilute liquid cow-manure. The following may also receive attention :—C. giganteum, C. Tracyanum, C. eburneum, Mastersii, and elegans. The three last-named should be grown a trifle warmer—the Intermediate house suits them well—watering them pretty freely during the growing season, but giving less during the winter months.

Lycaste Deppei and L. aromatica, if the plants have been rested in a light and dry position, will be pushing forth numerous flower buds from around the base of the new growth. These species do not require frequent disturbance at the roots, but when they require it are best repotted at this stage, for, like Anguloas, if left until blooming is over, the new growth, then far advanced, is greatly checked.

Odontoglossum grande will want attention this month. Up till now it has been kept on the dry side, since its bulbs matured, but now that growth has commenced, root action will soon follow, and any potting or top dressing needed should be done just as the roots appear at the base. I prefer using leaf-soil for this species, surfacing over with sphagnum moss. Except when growth and root action is vigorous, water is supplied sparingly, taking care in its application not to let any lodge in the young growths from which the flower spikes proceed, or they will probably damp off. Pleiones are now growing freely, suspended in a sunny position in intermediate temperature. They are fond of a good supply of water at the root, and must never be allowed to become dry at this season. Syringe them at least twice a day.

Sobralias are now showing for flower, and if at all pot-bound with roots, will be helped by an occasional watering with weak liquid manure. Stanhopeas should now be put in larger baskets, if required. The baskets should be shallow ones, having no crocks placed at the bottom. When potted give a position in the Warm house.

Zygopetalums which require repotting should be delayed no longer. The strong-growing kinds, like *Z.* intermedium, should have fibrous loam mixed in with the peat and moss. Others, such as *Z.* Gautieri, should be grown in baskets suspended. They are intermediate Orchids, and delight in a liberal supply of water during summer, while they are making their growth.

THE HYBRIDIST.

ODONTOGLOSSUM × WIGANIANUM.—This is a very handsome Odontoglossum, from the collection of Sir Frederick Wigan, Bart., Clare Lawn, East Sheen, to which a First-class Certificate was awarded by the Royal Horticultural Society on April 11th. Its parentage is recorded as derived from O. × Wilckeanum and O. × Rolfeæ, and Mr. Young informs us that it came originally from the birth-place of so many other hybrid Odontoglossums, at Loochristi. We should like to ask M. Vuylsteke whether he has not crossed O. × excellens or O. × loochristiense with O. × Rolfeæ, for there is a strong resemblance to O. triumphans in the flower, without any obvious trace of O. luteopurpureum. The flower measures $3\frac{3}{4}$ inches in diameter across the petals, these latter measuring over thirteen lines broad. The sepals are clear bright yellow, with clusters of brown blotches, and the petals similar with the addition of numerous small dots near the base. The lip is remarkably square, sixteen lines long by thirteen broad, and light yellow, with a few brown blotches in front of the feathery crest, and a few minute dots near the basal margin. The column wings are very broad, with rather small teeth. The characters of O. Harryanum, triumphans, and O. Pescatorei are apparent enough, and it is just such a cross as might be expected from a combination between O. × excellens and O. × Rolfeæ. It is very distinct and handsome.

ODONTOGLOSSUM × WARNHAMENSE.—An interesting Odontoglossum raised from O. Hallii × Pescatorei was exhibited at the R.H.S. meeting on April 25th, by C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), of which we have now received a flower. It shows the most unmistakable evidence of its origin, for the sepals and petals are ivory white, but larger and more acuminate than in O. Pescatorei, and regularly blotched with brown on the lower two-thirds of the segments, those on the petals being smaller than those on the sepals. The lip is pandurate, somewhat dilated and undulate in front, and ivory white with a few small brown blotches in front of the crest, which latter has teeth nearly as long as in O. Hallii, though the general arrangement is more as in O. Pescatorei. The column is rather short, ivory white, with broad brown denticulate wings. On the whole the flower most resembles O. Pescatorei. Mr. Lucas remarks that it is the first which has flowered out of over twenty which he has raised. It will be interesting to see how far the others vary when they reach the flowering stage. The bloom now sent measures three inches across its broadest diameter, but has not yet reached its full development.

PAPHIOPEDILUM × THAIS.—A hybrid raised in the collection of Reginald Young, Esq., Sefton Park, Liverpool, from P. insigne ♀ and P. × Orpheus Youngianum ♂, and obviously undeveloped at present, the flower

being small, and especially the dorsal sepal. The seed was sown in December, 1896, and the first flower appeared in February last, a rather long period to wait. The insigne character is not very prominent, the colour being dull green, with some dusky lines and spots on the disc, and a paler margin. The petals are greenish with a purple-brown suffusion, and the lip purple brown.

DENDROBIUM × RALLIANUM.—This is a very pretty hybrid from the collection of Pantia Ralli, Esq., Ashtead Park, Surrey, which was obtained from D. × splendidissimum grandiflorum × Hildebrandii, and bloomed for the first time about a year ago. The flower is about the size of D. Hildebrandii, and the sepals and petals show some of the characteristic twisting of that species. The colour is white, with a slight tinge of pink at the apex of the segments, and the lip bears a large slighly feathered maroon blotch, outside of which occurs a very pale yellow zone. It is a very promising hybrid, and may be described as intermediate between D. × Ellisii and D. × Elwesii, which if intercrossed should yield a similar hybrid.

ORCHIDS IN SEASON.

A VERY fine form of Odontoglossum × Adrianæ is sent from the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell, in which the flower measures rather over three inches in diameter across the petals. The lip closely resembles O. Hunnewellianum in shape, and is ivory white, with a few cinnamon-brown blotches in front of the crest, and a complete zone of the same colour between these and the margin, somewhat broken up into spots towards the base. The sepals and petals are much blotched with cinnamon-brown on an ivory-white ground. The plant produced four spikes, but only a dozen of the flowers were allowed to develop. The handsome Cymbidium × Lowgrinum, described at page 120 of our eleventh volume, has now developed considerably, and produced a spike of eight flowers, of which the upper two are sent. The sepals and petals are brownish green, and the lip very pale yellow, handsomely margined and blotched with crimson-brown in front, and with a central line of the same colour, extending as a row of dots down to the base, where occur groups of similar dots on either side of the keels. A fine flower of Cattleya Lawrenceana, and of Lælio-cattleya × Hyeana, one of its hybrids, are also sent.

A flower of the charming little Odontoglossum Rossii immaculatum is sent from the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks. It differs from the type in the total absence of spots, which leaves the flower blush white, with the usual yellow crest.

A remarkably fine flower of Dendrobium × Venus giganteum is sent

from the collection of R. G. Thwaites, Esq., of Streatham. The flower measures 5 inches across its broadest diameter, and the lip is 1½ inches broad. Mr. Black remarks that it is one of the largest—if not the largest—he has yet seen.

NOTES.

Two meetings of the R. H. S. will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during May, on the 9th and 23rd, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The great annual Flower Show will be held, as usual, at the Temple Gardens, Thames Embankment, from May 30th to June 1st. Cups and Medals will be awarded, as usual, according to merit. The Orchid Committee will meet at 11.30 a.m. on the opening day. Particulars and entry forms may be obtained from the Secretary.

The next meeting of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on May 11th next, on which date the Society's annual meeting will also be held. The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

The *Gardeners' Chronicle of America* for April gives a figure of Dendrobium Wardianum giganteum, with an article on Potting Orchids, by Mr. James Goodier. Mr. Goodier says "it is an open question if Orchids on the average are kept in as good condition generally in this country since the hose pipe has become to be so universally used as they were in the days of the old watering-pot." No wonder.

A curious deformity of Cattleya Mendelii has been sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury. There are two opposite petals, and one broad petal alternating with them, the remaining organ consisting of half a petal and half a lip, united down the centre, the shape and colour agreeing exactly with these respective organs. The three flowers on the plant are all abnormal, and the same thing occurred last year. The size and colour are very good. It evidently belongs to the remarkable type, C. Mendelii var. Janus, described at page 199 of our sixth volume. It occasionally produces a remarkably fine flower, and we should keep it as a curiosity.

Descriptions of several interesting plants are unavoidably postponed until next month, some for want of space, and others because illustrations are being prepared.

ORCHID PORTRAITS.

AERIDES FIELDINGII.—*Journ. Hort.*, 1905, i., pp. 292, 293, with fig.

CATASETUM CHRISTYANUM, Rchb. f.—*Bot. Mag.*, t. 8007.

CŒLOGYNE LAWRENCEANA, Rolfe.—*Gard. Mag.*, 1905, p. 254, with fig.

CŒLOGYNE SPECIOSA ALBA.—*Gard. Mag.*, 1905, p. 216, with fig.

CYPRIPEDIUM × HAYWOODIANUM.—*Gard. Chron.*, 1905, i., p. 195, fig. 80.

CYPRIPEDIUM × HELEN VAR. FASCINATOR.—*Gard. Mag.*, 1905, p. 169, with fig.

DENDROBIUM ATROVIOLACEUM.—*Journ. Hort.*, 1905, i., p. 355, with fig.

DENDROBIUM WARDIANUM GIGANTEUM.—*Amer. Gard. Chron.*, 1905, p. 28, with fig.

MASDEVALLIA ARMINI.—*Journ. Hort.*, 1895, i., pp. 312, 313, with fig.

ODONTOGLOSSUM CRISPUM PRINCE LEOPOLD.—*Gard. Mag.*, 1905, pp. 216, 217, with fig.

ODONTOGLOSSUM × LAWRENCEANUM.—*Gard. Chron.*, 1905, i., p. 197, fig. 86; *Garden*, 1905, i., p. 207, with fig.

ODONTOGLOSSUM × WIGANIANUM.—*Journ. Hort.*, 1905, i., p. 333, with fig.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

Mrs. C. The forms of Odontoglossum crispum having blotches on the sepals and lip only may be referred to O. c. Trianæ. The form sent is very prettily marked.

F. P. Please forward, and the two can appear together.

Alex. Dalgleiss. Both are forms of Odontoglossum gloriosum, which varies somewhat.

R. C. H. We cannot suggest any reason why the flower of Lælia purpurata failed to open, especially as the others were opened properly. A fall of temperature to 58° for a short time would hardly cause it. Are the roots healthy as well as the plant?

P. R. Odontoglossum Hunnewellianum.

R. N. H. 1 and 2 are forms of Odontoglossum × Andersonianum. 3 is a very distinct form of O. × Adrianæ, which should be taken care of.

D. E. T. A remarkable form of Odontoglossum × Adrianæ (next month).

Sender? Contents of tin box packed much too wet and quite rotten.

Photographs received, with thanks, C. P. R., D. B. C., W. S., T. L. M.

Books received. "Studies in the Family Orchidaceæ," By Oakes Ames, A.M., "The Culture of Sweet Peas," By Richard Dean, V.M.H., F.R.H.S., London Agricultural and Horticultural Association, 92, Long Acre, W.C.

Catalogues received. Descriptive Catalogue and Price List of Orchids from A. J. Keeling and Sons, Bradford. Preisliste der Orchidgärtnerei, von Karl Wilh. John, Andernach a. Rh. One and All Seeds, Agricultural and Horticultural Association, 92, Long Acre, London, W.C.

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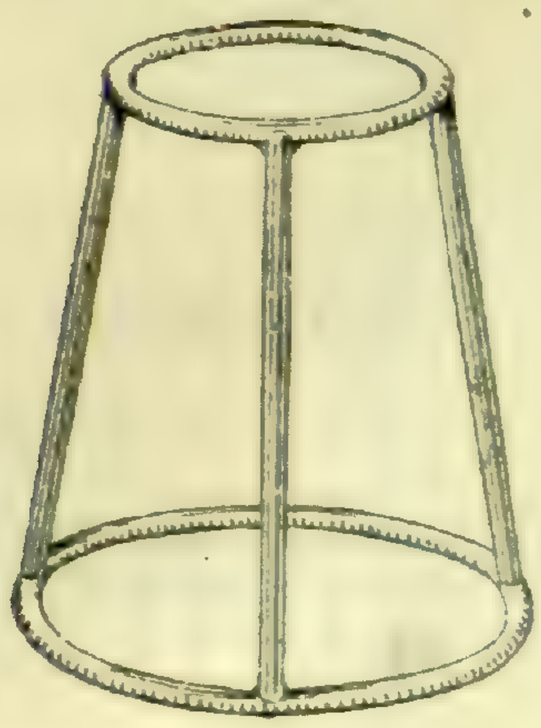

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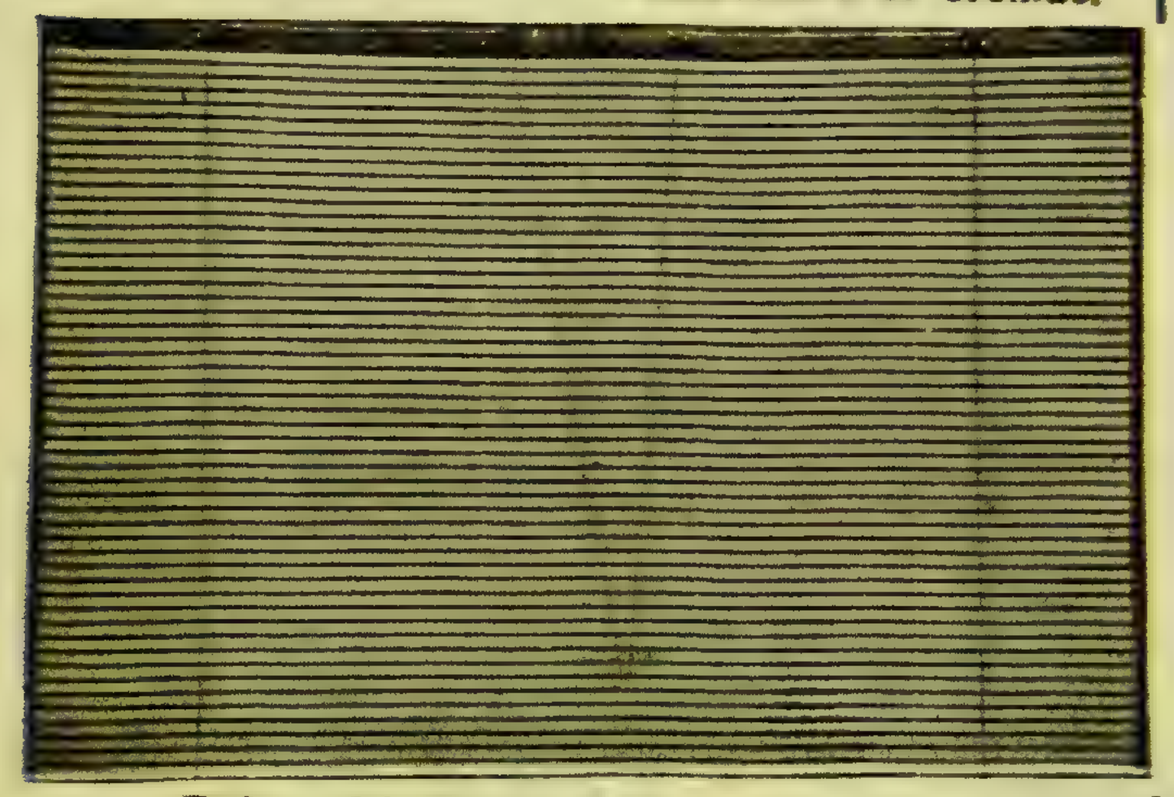

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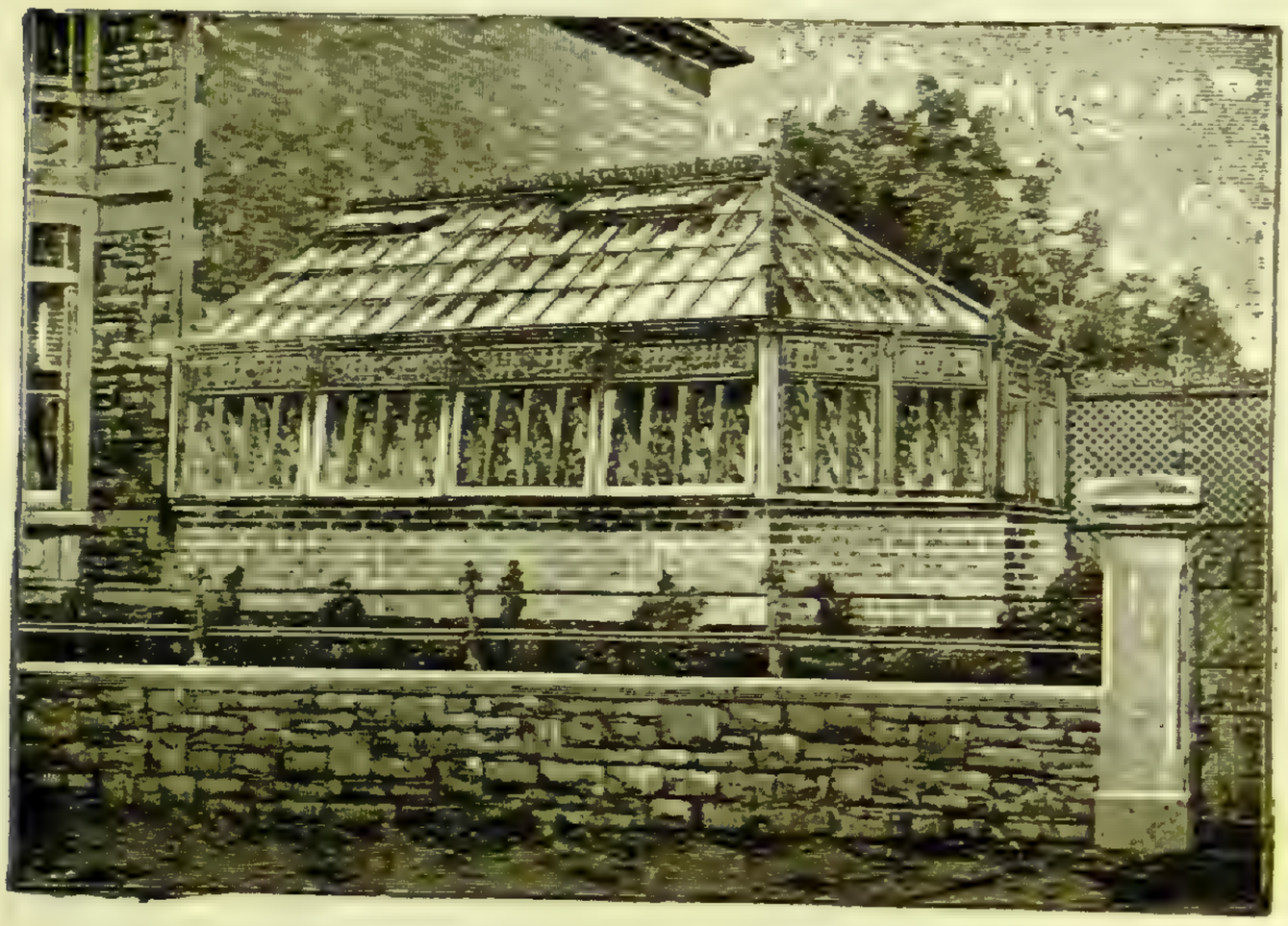

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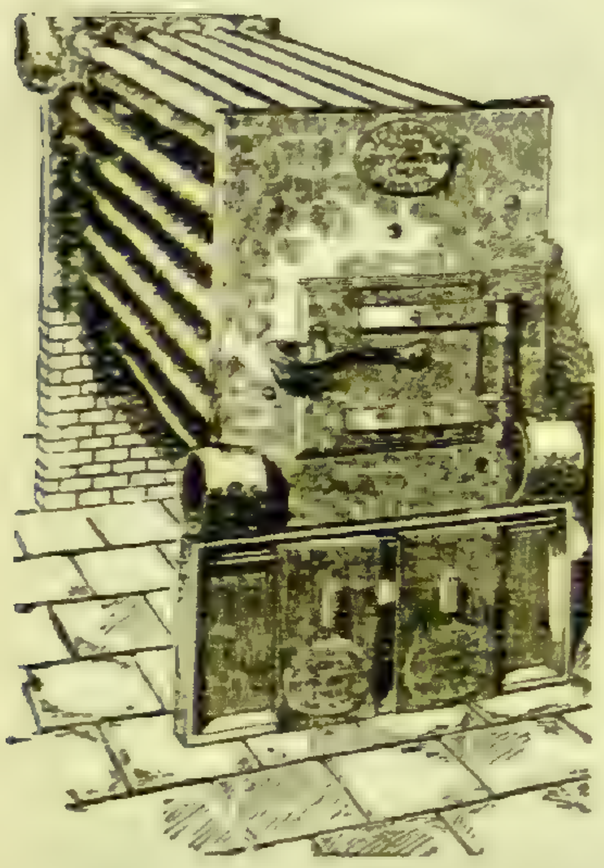

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THE ORCHID REVIEW:

An Illustrated Monthly Journal of Orchidology.

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THE ORCHID REVIEW.

VOL. XIII.] *JUNE*, 1905. [No. 150.

AN AMATEUR'S ORCHID SHOW.

"THE readers of this journal are familiar with the name of Seth Dooly Chand, the Marwari gentleman who has made such a reputation for himself as an amateur gardener in Bengal. He is a disciple of Mr. S. P. Chatterji, the well-known florist and nurseryman, to whom he is indebted for the knowledge that has made him such a successful grower, especially of Orchids. Add to this, the Seth has artistic tastes, and the money to gratify them. To his credit be it said that he has for several years past devoted his leisure and his fortune to the encouragement of horticulture generally. He has established himself in a lovely place in the suburbs of Calcutta, and his country home has been most appropriately named 'Orchid Dale.' At this time of the year we have most of our tropical and sub-tropical Orchids in bloom; and for several years past the flower-loving public have been treated to an Orchid show at Mr. S. P. Chatterji's; but he having retired from business, it became a question whether these annual treats were to cease. Mr. Chatterji, being in Calcutta, suggested to Seth Dooly Chand to have a show, and he fell in with the idea. A large number of invitations were issued, bidding his friends and all interested in Orchids to come and see his plants in bloom. The response was hearty, a stream of visitors came and went, all in ecstatic admiration of the splendid exhibition. His Excellency, Lord Kitchener, Commander-in-Chief of India, himself an enthusiastic amateur gardener, was among the distinguished visitors, and paid the Seth a very high compliment on his artistic and horticultural skill, observing that he had no idea there was such a lovely spot as 'Orchid Dale' to be found in India. Not only were the visitors treated to a floral feast, but they were most hospitably entertained.

"And now to the show itself. We should premise that 'Orchid Dale' is what is called a 'garden house,' situated on the Dum-Dum road. The grounds are most artistically laid out, and the hand of the landscape gardener is evident everywhere. There are beautiful lawns, and fine drives and footpaths. The plant houses are so arranged that one glides as it were from one into another, and they are laid out with consummate skill.

You enter the glass house; and here the eye feasts on a perfect galaxy of beauty. On either side are staged great masses of Adiantum. From among these peep out the most beautiful specimens of Phalænopsis Schilleriana, amabilis, Sanderiana, rosea, grandiflora, Mannii, and the rare and lovely Stuartiana. Oncidiums were in great form. O. superbiens, luridum and Lanceanum had magnificent racemes; ampliatum majus, carthaginense and Jonesianum were all well grown and made a fine show. Of Dendrobes there was quite a feast. There was nobile in great variety; albosanguineum, infundibulum, crepidatum, cretaceum, undulatum,, aggregatum, macrophyllum-superbum, Freemanii, Farmeri, Parishii, bigibbum, and Phalænopsis-Schrœderianum. There were only two Cypripedes in bloom, hirsutissimum and Spicerianum, but both were fine specimens. Cattleyas were in great form. The single flower of C. speciosissima was a perfect gem. There were also C. Trianæ, Mossiæ, Leopoldi, bicolor, all splendidly grown. That rare gem, Vanda cœrulescens, was in fine bloom. There were also V. tricolor and gigantea. There was a great profusion of Phaius Wallichi and grandiflora. The two Renantheras, Imschootiana and coccinea, were very much in evidence. One section of the inner conservatories was devoted entirely to Phalænopsis Schilleriana, where there were some hundred plants in full flower, forming a very striking object indeed."—Condensed from *Indian Gardening*, March 25, 1905, p. 203.

ORCHID HYBRIDISING IN FLORIDA.

WE have previously had some very interesting notes on Orchid hybridising in Florida, in the collection of T. L. Mead, Esq., of Oviedo, and now Mr. Mead reports further progress.

"I have a fine lot of little Orchids now," he remarks, "some six thousand, from six to eight months old, having been able for the first time to carry large quantities of Orchid-babies safely through the winter. They were in a glass case, with a constant breeze forced through it by machinery, actuated by a water-wheel running without intermission, night and day. Among the more unusual crosses may be mentioned the following:—Cattleya Bowringiana × Epidendrum advena (60 plants), × E. nocturnum (212), and × E. plicatum (141); the two latter crosses reversed (396 and 22 respectively); E. nocturnum × C. Loddigesii (25), × C. × Claesiana (3), and × Lælio-cattleya × Issy (33); C. × Browniæ × E. plicatum (31); and E. conopseum × Lælia cinnabarina (50).

"I mentioned in a previous *Review* (*O.R.*, xii., p. 72) the hardiness of little Orchids on a Magnolia trunk in the woods. Many of these perished during the summer, when conditions were apparently favourable, and newly planted seeds were starting on the same trunk. I suspect the older ones

were bitten into from underneath. The new ones did better than ever this winter, which was memorable for four days of icy blasts from the north, with temperatures of 20°, 24°, 19°, and 26° on consecutive nights. Orange crops were destroyed and trees cut back, but the Orchids didn't mind it a bit. Out of more than a hundred Lælia and Cattleya hybrids, one-quarter to one-half inch high, two or three lost a leaf apiece. The weather had been previously very dry, and probably the sap was so thick and gummy in the half dried-up plants that it was incapable of freezing at the temperatures we had.

"A charming variety of Lælio-cattleya × Frederick Boyle has just bloomed with me—from C. Trianæ virginalis × L. anceps alba. The shape is altogether that of the C. labiata group, petals even broader than usual, and the lip entire and open funnel shape, but the pollen is typical Lælio-cattleya pollen. A delicate flush of rose colour, just perceptible. and a few slender lines in the throat, prevent it from being classed as an albino. The pollen was sent me by Mr. Orpet, from Massachusetts, fifteen hundred miles away, and I do not know the exact type of flower it came from. The plant is ten years old, and the pseudobulbs are hardly more than rounded knots on tapering stems."

ZYGOPETALUM PROTHEROEANUM.

THIS plant has been known in cultivation for some years, but an opportunity for comparing it has not previously presented itself. It was exhibited at a meeting of the R.H.S. on August 25th, 1899, by Walter Cobb. Esq., Dulcote, Tunbridge Wells, and was recorded as a singular plant of the *Z.* brachypetalum class, with flowers having the sepals and petals of a dark chocolate colour, the lip being violet with reddish markings at the base (*Gard. Chron.*, 1899, ii., p. 198; *Orch. Rev.*, 1899, p. 287). A plant of it was exhibited by Messrs. Charlesworth & Co. in their group at the Temple Show, when I immediately recognised it as a species described and figured by Rodrigues, and on comparison I find it is *Z.* triste of that author (*Gen. et Sp. Orch. Nov.*, i., p. 108; *Cogn. in Mart. Fl. Bras.*, iii., pt. 5., p. 570, t. 106). It was originally discovered at Caldas, in the province of Minas Geraes, growing in humus in the crevices of rocks at the summit of Mount Pedra blanca, at nearly 6,000 feet elevation. It is near the true *Z.* Mackayi, Hook., and has flowers of about the same size, but differs in having the sepals and petals of a nearly uniform dusky purple-brown, and the lip violet-blue, with a little paler marbling. The crest is white with violet lines, and only obscurely channelled between the lines. It is a striking species, and the original name of *Z.* triste must now be recognised.

R. A. R.

ORCHIDS AT WESTFIELD, WOKING.

A VERY select collection of Orchids is being brought together by Francis Wellesley, Esq., at his residence at Westfield, Woking, which we have just had the pleasure of seeing. Orchids are now so numerous and varied that anything like a representative collection must necessarily take up a large amount of space, and Mr. Wellesley has consequently limited his collection to Cypripedes and the Cattleya group, and his four houses are filled with a

Fig. 35. CATTLEYA LABIATA MRS. FRANCIS WELLESLEY (See p. 167).

choice selection in thriving condition. The houses are quite modern and well appointed, and Mr. Wellesley's gardener, Mr. Hopkins, takes an equal interest in the collection, and manages it with conspicuous success. The plants are thoroughly clean and healthy—a sure indication that their wants are well and constantly looked after, which, after all, is the great secret of successful Orchid culture. And we may remark in passing that Mr. Wellesley has not adopted the leaf-compost treatment, having observed

that plants purchased in leaf-mould have sometimes been in an unsatisfactory state, probably through too much water at the root. In any case, Mr. Wellesley is not a convert to the new system.

We may commence with the beautiful series of Paphiopedilum Fairrieanum hybrids, which have become familiar to our readers through the recent series of illustrated articles in these pages. The plants are now out of flower, but we examined them with great interest, while Mr. Wellesley pointed out their individual peculiarities of growth and vigour. The one known as Little Gem answers to its name in more senses than one, for, though apparently quite healthy, it is a miniature plant altogether, and one which is highly prized by Mr. Wellesley. The majority of these hybrids have already been mentioned, and it may be interesting to add that about 120 attempts to intercross them have been made, and the net result at present is one small seedling, believed to be from P. × Arthurianum pulchellum crossed with Niobe. This cross was made, and the seed sown on a pot by itself, when this single seedling appeared, so that it is believed to be correct, and it has all the appearance of such a parentage. In other cases either the cross refused to take, or the seed appeared to be abortive. There are two capsules, however, which at present are in good condition, one on P. × Niobe, the other on P. × Arthurianum pulchellum, and in each case P. × Juno was the pollen parent. It is hoped that these will contain some good seed, for it is rather discouraging to find so little results from such a long series of crosses, especially when it is found that other seedlings germinate freely enough.

In the same house was a fine series of P. insigne forms, including the rare variety Sanderianum, and some interesting seedlings obtained between the varieties Sanderæ and Dorothy; also seedlings between insigne Sanderæ and the Bornean species P. Sanderianum, which should prove interesting. A capsule of P. callosum Sanderæ × Godefroyæ leucochilum should yield a very interesting hybrid. Here were two good plants of callosum Sanderæ and one of Lawrenceanum Hyeanum, while a good plant of the handsome P. × Mrs. William Mostyn and others were pointed out. Not very many were in flower, and late autumn would be a better time to see this house. We noted, however, flowers of P. callosum, P. hirsutissimum, the fine P. × Harrisianum superbum and × T. W. Bond.

In another house we noted the true P. Hookeræ in flower, together with P. barbatum, a lot of good P. Lawrenceanum, including the very richly-coloured var. hackbridgense, with the new P. Gratrixianum in bud. It may be mentioned as a curiosity that while P. Lawrenceanum does well here, the albino variety Hyeanum did not thrive, but after being removed to the other house, with P. callosum Sanderæ, its progress became satisfactory. Here were many choice crosses of P. niveum and P. bellatulum, and

many other good things, among which we noted the fine P. × Sanderiano-Curtisii, P. × Goweri and its variety giganteum, the interesting P. × Hopkinsianum (bellatulum × Mastersianum), and two strong plants of P. × Bella. A plant of P. × Olivia occupied a rather shady position, for it has been noticed that it goes back when placed in too much light.

The seedling house was very interesting, and contained a fine series of choice crosses, from the tiniest seedlings upwards, which we cannot find space to enumerate. Lælio-cattleya × callistoglossa ×

Fig. 36. LÆLIA × IONA NIGRESCENS (See p. 168).

Cattleya Dowiana was pointed out as one of the most promising crosses in the house, as the parents were specially fine forms. Seedlings from Sophronitis grandiflora crossed with L.-c. × warnhamensis and with C. Schrœderæ should also prove very interesting. The seeds are sown on canvas and placed in close frames and kept warm for a few days, so as to start them, after which the greatest care is taken to avoid a check. Some of the pots were crowded with tiny little green globes in various stages,

others were pricked off into small pots, and the remainder were potted off singly, and stood in rows on the stages, and all in the most thriving condition. This department of the collection is growing rapidly, and we noticed a number of sturdy capsules in the Cattleya house, representing crosses between choice varieties. Some fine hybrids may be anticipated when the plants reach the flowering stage.

The Cattleya house contains a large series of choice things in excellent health, both species and hybrids, a large number of plants being suspended from the roof, and the remainder placed on a stage all round the house. There is a beautiful series of albinos, including some good forms of C. Mossiæ, C. quadricolor (chocoensis) alba C. Skinneri alba, C. intermedia nivea, Lælio-cattleya × Zephyra alba, L.-c. × Olivia alba, &c. Two very diverse plants of Cattleya × Hardyana were pointed out, one much like C. Dowiana in appearance, and imported with it, while the other was imported with C. Warscewiczii, which it much resembles. In flower the two a.e said to be much alike. We would suggest that the circumstances mentioned prevented their identity being detected until they bloomed. In a similar way there are two plants of Lælio-cattleya × Gottoiana in the collection, much alike in the flowers, but one most resembles Lælia tenebrosa and the other Cattleya Warneri, the two parents. Among the numerous fine hybrids pointed out we may mention the superb L.-c. × Haroldiana magnifica, L.-c. × Cappei Charlesworth's var., and the charming little Sophrocattleya × Saxa. It was too early for many to be in flower, but we noted a strong Lælia cinnabarina, L. × Latona, and Brassolælia × Gratrixiæ, while others were in sheath. The handsome Paphiopedilum × Wellesleyanum was just expanding, and most resembles P. concolor in colour and P. bellatulum in habit. P. concolor with twin-flowered scape and a nice batch of P. niveum, in flower and bud, were also suspended from the roof, where they succeed admirably, as also does P. bellatulum and its chaste variety album.

Mr. Wellesley has had a beautiful series of paintings of his plants made, by Macfarlane and Miss Roberts, and we took a much longer series of notes than we shall be able to use, but, through Mr. Wellesley's kindness, we are able to illustrate three handsome certificated varieties, namely, Cattleya labiata Mrs. Francis Wellesley, Lælia × Iona nigrescens, and Lælio-cattleya × Charlesworthii magnifica.

CATTLEYA LABIATA MRS. FRANCIS WELLESLEY (fig 35) is a large and beautiful variety, which received an Award of Merit from the R.H.S. on November 1st, 1904. The petals are $2\frac{3}{8}$ inches broad, and expand to $7\frac{1}{4}$ inches from tip to tip. The colour is a very light rosy lilac, with light yellow veining on the disc. The figure is from a painting by Miss Roberts, and is necessarily much reduced in size.

LÆLIA × IONA NIGRESCENS (fig. 36) is a large and very handsome variety, which received an Award of Merit from the R.H.S. on February 28th last. The petals are 1⅜ inches broad, and have an expanse of 1¼ inches. The sepals are rosy lilac, the petals light rosy purple, and the lip very rich purple, quite blackish in the throat. The parents are Lælia Dayana and L. tenebrosa. The figure is from a painting by Macfarlane, and is about four-fifths natural size.

Fig. 37. LÆLIO-CATTLEYA × CHARLESWORTHII MAGNIFICA.

LÆLIO-CATTLEYA × CHARLESWORTHII MAGNIFICA (fig. 37) is a very richly coloured variety, which received an Award of Merit from the R.H.S. on January 14th last. The sepals and petals are of the richest reddish orange, and the undulate lip is almost claret-red, with a trace of yellow veining in the throat. The parents are Lælia cinnabarina and Cattleya Dowiana aurea. The figure is prepared from a painting by Miss Roberts, and is natural size.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of this Society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on May 9th, when there was a very fine display of Orchids.

F. Menteth Ogilvie, Esq., The Shrubbery, Oxford (gr. Mr. Balmforth), staged a very fine group, which gained the award of a Silver-gilt Flora Medal. It contained a number of well-flowered plants of Oncidium concolor, some good Odontoglossum crispum, O. × Adrianæ, O. triumphans, and others, Cymbidium Lowianum, C. L. concolor, C. × eburneo-Lowianum, a well-bloomed Cattleya intermedia alba, Lælia cinnabarina with five spikes, the beautiful albinos, Cypripedium callosum Sanderæ, C. Lawrenceanum Hyeanum and C. × Maudiæ, a noble C. Rothschildianum with fourteen flowers, C. × Mrs. Herbert Druce, Miltonia × Bleuana. and some good Lycaste Skinneri and Sophronitis grandiflora, the whole being very effectively arranged.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a beautiful group, which gained a Silver Flora Medal. It contained the very fine Cattleya Mossiæ Goossensiana, C. intermedia Aquinii, Masdevallia × Doris, M. × Rushtoni, and M. × ferrierensis, Lælio-cattleya × Fascinator splendens, Epilælia × radico-purpurata, Brassocattleya × striata, a fine clump of Dendrobium Jerdonianum, &c. Awards of Merit were given to Lælio-cattleya × G. S. Ball magnifica, Brassocattleya × Mrs. J. Leemann, Epilælia × Sylvia (L. cinnabarina × E. Cooperianum), and Bulbophyllum × Reinwardtii, also a Botanical Certificate to Dendrobium crumenatum.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), also received a Silver Flora Medal for a choice group, including the handsome forms of Odontoglossum crispum known as Rex, Lindeni, and Princess Beatrice, O. × Harryano-crispum Duchess of York, O. × Wattianum, O. Œrstedii with twenty-three flowers, a fine Cattleya Skinneri with nine inflorescences, Brassocattleya × Digbyano-Mossiæ, Renanthera Imschootiana, Masdevallia cucullata, Cypripedium Lawrenceanum, a strong C. L. Hyeanum, C. × Maudiæ, C. Mastersianum, Bulbophyllum barbigerum, B. Dearei, and other interesting things.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. Day), also received a Silver Flora Medal for a good group, containing some good Odontoglossum crispum and others, a fine Angræcum sesquipedale, Cymbidium Lowianum, fine examples of Dendrobium Bensonæ, thyrsiflorum and Devonianum, D. atroviolaceum, Phaius × Norman, the beautiful Miltonia × Bleuana, good examples of Cattleya Mendelii, C. Schrœderæ, C. intermedia alba, &c.

John Leemann, Esq., West Bank House, Heaton Mersey (gr. Mr. Edge), sent three handsome forms of Odontoglossum crispum. O. c. Louis L. Sander, which gained a First-class Certificate, has a white ground colour, about two-thirds covered with rich purple-crimson blotches, and the sepals and petals stained with the same at the back, while the lip is also white with several blotches. O. c. Titus is another handsome form richly blotched with chocolate purple, and O. c. aureum West Bank House var. has flowers of a clear canary yellow. The two latter each received an Award of Merit.

J. Bradshaw, Esq., The Grange, Southgate, received a First-class Certificate for the handsome Cymbidium rhodochilum, which was described at page 184 of our tenth volume.

C. J. Lucas, Esq,, Warnham Court, Horsham (gr. Mr. Duncan), obtained a Silver Banksian Medal for a small group, including a good plant of Cattleya × Apollo (Aclandiæ × Mossiæ), Odontoglossum × Andersonianum obstupefaciens, two very fine forms of O. polyxanthum, O. × Adrianæ, O. Hallii, and O. triumphans.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent Odontoglossum crispum Bonnyanum Crawshayanum, a very fine form which had been grown in a glass pot, O. × Andersonianum Raymond Crawshay, and O. Lindleyanum aureum, the latter a clear yellow unblotched form, which received a Botanical Certificate.

Frau Ida Brandt, Riessbach, Zurich, sent a fine flower of the remarkable Angræcum infundibulare, to which a Vote of Thanks was accorded.

Jeremiah Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), showed a remarkable hybrid between Diacrium bicornutum and Epidendrum radicans, most like a dwarf form of the latter, and bearing a terminal head of reddish-scarlet flowers.

G. H. Rolls, Esq., Arcadia, Bournemouth, sent a fine form of Cattleya Mossiæ.

W. C. Walker, Esq., Winchmore Hill (gr. Mr. Bunney), sent Odontoglossum × Adrianæ Avice Walker.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), showed the richly-coloured Cypripedium Lawrenceanum hackbridgense, and C. × Wellesleyanum, a beautiful light-yellow flower dotted with purple most like C. bellatulum in shape and C. concolor in colour.

H. Whateley, Esq., Kenilworth (gr. Mr. Howes), sent Odontoglossum crispum Hubert Whateley, O. c. Eric Whateley, and O. × Andersonianum Whateley's var., all good spotted forms.

Messrs. James Cypher and Sons, Cheltenham, staged a very fine group, which gained a Silver-gilt Flora Medal. It contained many good forms of Odontoglossum crispum, O. c. giganteum being very fine, some good O. Pescatorei, O. Uroskinneri, O. × loochristiense Empress Frederick, some

good Cattleya Schrœderæ, C. Mendelii Duchess of York, C. Skinneri, C. Aclandiæ, pretty clumps of Leptotes bicolor, Diacrium bicornutum, Calanthe veratrifolia, Oncidium cornigerum, Masdevallias, Lælio-cattleya × highburiensis, L.-c. × Hippolyta, Phalænopsis amabilis Rimestadtiana, &c.

Messrs. Charlesworth and Co., Heaton, Bradford, obtained a Silver Flora Medal for a fine group, containing a series of good forms of Lælio-cattleya × Myra and × G. S. Ball, also L.-c. × Mercia, × Hyeana, and others, some good Odontoglossum crispum, O. × Brandtiæ, O. × loochristiense, O. × excellens (home raised), a fine example of Cypripedium × Edithæ, Saccolabium curvifolium, Brassocattleya × Digbyano-Mossiæ, and other good things.

Messrs. Hugh Low and Co., Bush Hill Park, obtained a Silver Banksian Medal for a pretty little group, including a very fine Dendrobium clavatum, Trichopilia suavis and T. s. alba, Chysis bractescens, some good Odontoglossums, Pholidota ventricosa, Saccolabium ampullaceum, Cattleya Lawrenceana, C. intermedia with its varieties alba and cœrulea, &c.

Messrs. John Cowan & Co., Gateacre, Liverpool, showed a fine specimen of Cypripedium × aureum virginale with six flowers.

M. Ch. Vuylsteke, Loochristi, Ghent, sent the handsome Odontoglossum × Rolfeæ Palma, and several other hybrids.

AT the meeting held on May 23rd there was again a very fine display of Orchids.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), staged a very fine group, to which a Silver-gilt Flora Medal was awarded. It contained the remarkable Dendrobium Victoria-Regina, Maxillaria Sanderiana, Lycaste × Balliæ superba, three good Anguloa Clowesii, Lælia purpurata Russelliana, L. p. Littleana, and others, Brassia maculata, Epidendrum latilabre, Cypripedium callosum Sanderæ, and others, some good Lælio-cattleyas, Cattleya intermedia Parthenia, C. i. alba, C. i. Lowryana, C. × Roehrsiana, C. × Pittiæ (Harrisoniana × Schilleriana), a handsome thing, having purple-rose undulate sepals and petals, bearing a few brown spots, and a whitish lip closely striated with dark rose (First-class Certificate), Odontoglossum crispum guttatum, with the varieties Princess Victoria, Maud Rochford, Fairy Footprints and Rosslyn var., all handsomely spotted, O. Pescatorei Pitt's var., a fine blotched form, O. luteopurpureum Vuylstekeanum, O. × mulus, and others. Lastly a noble plant of the handsome O. × Wilckeanum Pittiæ, bearing a very fine spike. A Silver-gilt Medal was voted to Mr. Thurgood, for this plant, for continued excellence of culture.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), also received a Silver-gilt Flora Medal for a large and handsome group,

containing two remarkably fine examples of Odontoglossum × excellens, one of which was the original plant exhibited at the Orchid Conference in May, 1885, the handsome O. crispum Luciani and other spotted forms, O. cordatum, O. × Adrianæ varieties, and others, some fine Lælias and Lælio-cattleyas, a fine plant of Cymbidium Devonianum, Cattleya Mendelii, C. Skinneri and var. alba, Cypripedium Lawrenceanum Hyeanum, two good C. callosum Sanderæ with three flowers each, fine plants of C. × Euryale, C. × superciliare, C. × grande, and others, Trichopilia coccinea, Nanodes Medusæ, the richly-coloured Cochlioda Nœtzliana, Dendrobium × illustre, Masdevallia bella, M. Wageneriana, M. tridactylites, &c. An Award of Merit was given to the handsome Odontoglossum × Lucasianum heatonense (Hallii × cristatellum), having chocolate-brown sepals and petals margined and tipped with yellow, and the lip cream-white spotted with brown round the crest.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. Day), received a Silver Flora Medal for a pretty group, containing some good Odontoglossum crispum, O. Hunnewellianum, O. × Adrianæ, and others, Cattleya Lawrenceana, a finely coloured Cattleya Schrœderæ, some good C. Mendelii, Cœlogyne speciosa, a fine Oncidium crispum, Lælio-cattleya × Ascania, L.-c. × Goodsoni (L.-c. × Phœbe × C. Mendelii), bright orange with the front lobe of the lip purple, a fine form of Miltonia vexillaria, and some good Cypripedes.

N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Chapman), obtained a First-class Certificate for Cypripedium × Dom Carlos var. Rex (Godefroyæ leucochilum × Lawrenceanum), a remarkably fine form; an Award of Merit for Dendrobium × Venus Cookson's var., more like D. Falconeri than D. × Venus grandiflorum,—a fine specimen of which was also shown—and a Botanical Certificate for Polystachya Haroldiana, The latter was sent from the neighbourhood of Lake Tanganyika by Mr. Harold Cookson. It is a tufted plant with short compressed pseudobulbs, and an inflorescence of five flowers, nearly an inch long, and white with a greenish tinge on the sepals.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), obtained an Award of Merit for Zygopetalum × Crawshayanum (xanthinum × stapelioides). The cross was made in July, 1901, the seed sown in the following February, and the plant has now produced its first two flowers, which are 2½ inches across, and yellow with purplish-red markings on the petals and lip, and a few spots on the sepals.

J. B. Joel, Esq., Northam House, Potter's Bar (gr. Mr. May), received a Cultural Commendation for a noble specimen of Cypripedium Rothschildianum, bearing three fine spikes, each with five expanded flowers and one bud.

The Right Hon. Lord Auckland (gr. Mr. Matthews), sent five cut spikes of Broughtonia sanguinea, Oncidium sphacelatum, and Lissochilus Krebsii.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), sent the rare Brassia Gireoudiana.

J. S. Moss, Esq., Wintershill, Bishop's Waltham (gr. Mr. Kench), sent a two-flowered inflorescence of a fine blotched form of Odontoglossum crispum.

The Right Hon. Lord Rothschild, Tring Park (gr. Mr. Dye), sent Lælia purpurata Tring Park var., a fine dark form.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent Lælio-cattleya × Lucia Westfield var., Cypripedium Lawrenceanum Majestas, with very broad dorsal sepal, Cattleya Skinneri var. Minnie. white with a purple base to the lip, and Lælia purpurata Mrs. R. A. H. Mitchell, white with a violet-purple disc to the lip.

Messrs. Hugh Low and Co., Bush Hill Park, sent some good Dendrobium Bensonæ and Cattleya Mossiæ, together with C. intermedia alba, Odontoglossum crispum Jeanette, and O. × Andersonianum Low's var.

Messrs. John Cowan and Co., Gateacre, Liverpool, sent a lavender-tinted Cattleya Mossiæ, and Odontoglossum crispum Edith Bolton, a curious white form, having the petals flaked with cinnamon brown and spotted with reddish brown inside the margin.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on May 11th last, when there was a very fine display of Orchids.

A. Warburton, Esq., Haslingden (gr. Mr. Bailey), staged a good group of Odontoglossums, which gained a Silver Medal, a plant of O. × ardentissimum being particularly noteworthy.

S. Gratrix, Esq., Whalley Range (gr. Mr. Cypher), received an Award of Merit for Odontoglossum crispum Northern Star.

P. Smith, Esq., Sale, received an Award of Merit for a fine plant of Eriopsis rutidobulbon.

R. le Doux, Esq., West Derby, Liverpool (gr. Mr. Davenport), received a Cultural Certificate for a fine plant of Miltonia vexillaria in a six-inch pot, bearing twelve spikes of bloom.

Messrs. J. Cypher & Sons, Cheltenham, exhibited a fine group, which received a Silver Medal.

T. M. Crook, Esq., Morecambe, W. Thompson, Esq., Walton Grange, Stone, and M. Ch. Vuylsteke, Loochristi, Ghent, received Bronze Medals for groups.

W. Laverton, Esq., G. W. Law-Schofield, Esq., and Mr. W. Holmes were accorded Votes of Thanks for groups.

THE Annual General Meeting was held on the same date, when S. Gratrix, Esq., occupied the chair, and about forty members were present.

The Hon. Secretary (Mr. P. Weathers) read the report for the past year, showing that the Society was in a good financial position, and that the year's work had been up to the average. The Report was adopted.

A. Warburton, Esq., Vine House, Haslingden, was elected Chairman for the session 1905-1906, and E. Ashworth, Esq., Harefield Hall, Wilmslow, Vice-chairman.

LIEGE HORTICULTURAL EXHIBITION.

SOME interesting Orchids were exhibited at the above meeting, held on May 8th, 9th, and 10th.

M. Peeters, Brussels, sent a choice group, consisting principally of hybrids, and containing some good forms of Odontoglossum crispum, also a pretty series of hybrids between O. × Rolfeæ and O. crispum, and between O. × Adrianæ and O. crispum Queen Victoria.

M. Ch. Maron, Brunoy, sent a beautiful series of hybrids of the Cattleya group, those from Brassavola Digbyana being very fine.

M. Lambeau, Schaerbeeck, showed a good specimen of Cypripedium × Helvetia superba, Lælio-cattleya × Henry Greenwood, a very fine L.-c × Dominyana, L.-c. × Merciana, a pretty hybrid derived from C. amethystoglossa and L. flava, and others.

Messrs. Pourbaix, Frères, Mons, staged an interesting and varied group, including their free-flowering hybrid Masdevallia × Pourbaixii.

Messrs. Camille, Frères, showed the handsome Cymbidium insigne (Rolfe), in the group for new plants.

INTERNATIONAL HORTICULTURAL EXHIBITION AT PARIS.

AT this Exhibition, held from May 20th to 26th, there was a very good display of Orchids.

In the class for 100 specimens in pots the first prize was gained by M. A. Marcoz, Villeneuve St. George's, Seine et Oise, the group containing some choice forms of Odontoglossum crispum, Cattleyas, Miltonias, Oncidiums, Phalænopsis amabilis, Cypripedium Rothschildianum, Lælia purpurata and tenebrosa, and others. This group was awarded a Silver-gilt Flora Medal from a deputation of the Royal Horticultural Society of London. M. G. Lesueur, St. Cloud, Seine et Oise, was second.

For a group of 50, M. Robert Lebaudy, Bougival, Seine et Oise, was first with a fine group, and M. M. Duval et fils, Versailles, second.

For 25 Orchids in flower, M. Magne, Boulogne-sur-Seine, was awarded the Gold Medal for an excellent group.

A class was set apart for Vandas, Phalænopsis and Aërides, the prize being gained by M. A. Regnier, whose group included some good Phalænopsis amabilis, Vanda cœrulescens, and several species of Aërides. A specimen of A. Sanderianum superbum was a magnificent example of good culture, having growths nearly four feet high, with vigorous foliage almost to the base, and although not in flower a Silver-gilt Medal was awarded. A similar award was given to a fine plant of Phalænopsis amabilis Dayana Regnieri bearing a spike of twenty-six specially large flowers. A fine hybrid between Lælia purpurata and Cattleya Mendelii, called Cattleya × Regnieri, also came from the same exhibition and received a Silver-gilt Medal.

M. Ch. Maron, Brunoy, sent the best collection of Cattleyas, Lælias, and Lælio-cattleyas, L.-c. × callistoglossa, × Hyeana, and × Mozart being specially good, the latter bearing sixteen richly-coloured flowers. This exhibitor also sent a good plant of Cirrhopetalum Mastersianum.

M. Dougourd received a Silver Medal for a very interesting group of Orchids indigenous to the Forest of Fontainebleau and its surroundings, Listera ovata, with species of Orchis and Ophrys being well represented.

ODONTOGLOSSUM THOMPSONIANUM.

AT the R.H.S. meeting held on April 25th a remarkable hybrid Odontoglossum, derived from O. crispum and O. Edwardii, was exhibited by W. Thompson, Esq., Walton Grange, Stone, and received a First-class Certificate. A photograph, flower, and coloured painting has now been sent by Mr. Stevens, with a note on the plant's history. The seedlings were raised by Mr. Rappart, of Liscard, near Birkenhead, and when his collection was sold in 1902 they passed into the Walton Grange collection, being then in a poor state of health. They were some time before making a move, but grew well last year, and one has now flowered. The spike is about three feet long, slender, and bears several side branches. The terminal branch bears about seven flowers, and these began to open first. The bulbs and leaves are quite intermediate between the parents. So much for the plant's history. It is now clear that they are from the cross "O. crispum × Edwardii," recorded by Mr. Burberry at page 231 of our seventh volume. We also saw these seedlings in May, 1899. when they were thriving little plants with a few small leaves. The flower sent measures about $2\frac{1}{4}$ inches from tip to tip of the petals, and is fairly intermediate in shape, though in its very dark colour it most resembles O. Edwardii. The sepals and petals are rich dark purple with narrow lilac-

purple margins and tips, the latter being acuminate and somewhat twisted. The petals have also some small lilac markings at the extreme base. The lip is broadly ovate-pandurate, with an acuminate apex, and the colour dark brownish-purple, with a lilac apex and yellow crest. It is a very richly coloured and remarkable hybrid, and if it could be again crossed with O. crispum something still more remarkable might result, for at present it has rather too much of the tall O. Edwardii character, and is rather deficient in size.

ORCHIDS FROM LILLE.

A SERIES of very beautiful Orchids is sent from the collection of M. Oscar Fanyau, Hellemes-lez-Lille, by M. E. Cleverley. Odontoglossum × ardentissimum var. Robert Delacre is a superb form said to be flowering for the first time. The sepals and petals are occupied by one enormous red-purple blotch, with a white apex margin and base, somewhat tinged with lilac, and the lip is white, prettily blotched with deep red-brown round the crest. It is excellent in shape and will develop into a fine thing. O. × ardentissimum exornatum is larger, and has the typical intermediate shape, with a tinge of rose on the sepals, and two small red-purple blotches on the tip, in front of the crest, and the usual brown markings at the base. O. × hellemmensis (crispum × harvengtense) is a particularly interesting cross, having almost the crispum shape, but the column wings are broader and denticulate. The segments are strongly tinged with blush-pink, but there is a trace of light yellow in the ground colour, and all the segments bear a number of small red-brown spots. It is extremely promising, as it has produced a spike of six flowers on its second growth, and M. Cleverley also remarks that it is a good grower. O. × Wiganianum agrees well with the original form described at page 157, and confirms the remarks already made as to its parentage, for the column wings are broad and entire as in O. triumphans. O. × Rolfeæ is represented by a good dark form, and O. × Harryano-triumphans has the sepals and petals almost as dark as in O. Harryanum itself, both being very handsome. O. × Adrianæ Denise Delacre is a beautifully marked form, the sepals being more than half covered with great confluent cinnamon-brown blotches, and the petals and lip bearing smaller blotches. The lip is narrower than usual, and the column wings are broad and denticulate. Lastly must be mentioned the very distinct Cœlogyne speciosa alba, and a very richly-coloured form of Lælio-cattleya × Hippolyta, the whole forming a very charming group, and affording evidence of excellent culture. By an accident with the label the plant described at page 125 as Odontoglossum crispum Susanne Delacre should have been O. c. Lindeni.

ODONTOGLOSSUM SEEDLINGS AT ROSEFIELD, SEVENOAKS.

ABOUT a year ago we gave an account of the fine series of seedling Odontoglossums in the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks (*O.R.*, xiii., pp. 203-208), and now we are able to illustrate a

Fig. 38. ODONTOGLOSSUM SEEDLINGS AT ROSEFIELD, SEVENOAKS.

remarkable group of them, arranged on the stage of one of the houses, precisely as they are grown. The photograph here reproduced has recently been sent by Mr. Crawshay, who estimates that about 1,200 seedlings are included. The majority are here shown, though a few were omitted from the block, as the photograph was too large for our page. For the methods

employed we refer our readers to the article mentioned. We congratulate Mr. Crawshay, and his able gardener, Mr. Stables, on their success.

THE TEMPLE SHOW.

THE Great Annual Flower Show of the Royal Horticultural Society, the eighteenth of the series held in the Inner Temple Gardens, opened on May 30th, and will be continued on the two following days. The morning was fine but dull, and soon after the gates were opened the tents were crowded, a condition of things which became worse when some time later a thunder storm came on, accompanied by about two hours of heavy rainfall. There was a large and brilliant display of Orchids, which filled the centre of the large tent, with the addition of one very artistically arranged group on the side. The quality was for the most part excellent, without much in the way of novelty, though some of the recent hybrids came up in much improved condition. The list of awards was rather short, consisting of three First-class Certificates, four Awards of Merit, one Botanical Certificate, and one Cultural Commendation, with the usual complement of Cups and Medals. The judges for Orchids were Messrs. H. J. Chapman, James Douglas, J. Gurney Fowler and H. Little.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), staged a rich and varied group, remarkable alike for quality and good culture, to which a Gold Medal was awarded. It contained many good Cattleyas and Lælias, and among them the beautiful C. Mossiæ Wageneri, C. × resplendens, and L. Boothiana with three spikes, the handsome Lælio-cattleya × Myra magnifica, L.-c. × Mercia, L.-c. × J. F. Birkbeck (L.-c. × Henry Greenwood × C. Mendelii), a very handsome thing, Brassocattleya × striata, some good Miltonia vexillaria, the fine Brassia brachiata, Oncidium Gardneri, some good Odontoglossums, including O. × ardentissimum, × loochristiense, × elegantius, tripudians, × amabile, &c., Aërides Fieldingii, Zygocolax × Veitchii Kromeri, Cochlioda Nœtzliana, Cymbidiums tigrinum and Devonianum, Sobralias macrantha and var. alba, × Wiganiæ, × Veitchii aurea, and numerous other fine things.

Jeremiah Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), staged a very large and brilliant group, which gained a Silver Cup. Among the more noteworthy things we noticed a lot of the free-flowering Epidendrum × Boundii, Cœlogyne pandurata, Cattleya Skinneri alba, some good C. Mossiæ and its var. Reineckeana, Vanda Denisoniana, Lælia grandiflora (majalis), some good L. purpurata, Odontoglossum polyxanthum, O. tripudians, some good O. crispum, &c., the rich orange-yellow Spathoglottis aurea, Gatton Park var., a few good Miltonia vexillaria, Cymbidium × eburneo-Lowianum, C. Lowianum and var. concolor, Cochlioda Nœtz-

liana, Masdevallias cucullata and Veitchiana, Bulbophyllums barbigerum and Lobbii, Cypripediums niveum and Chamberlainianum, some good Thunias, &c., making a fine display of the usual showy species of the season.

J. Rutherford, Esq., Blackburn (gr. Mr Lupton), staged a pretty group, which gained a Silver Flora Medal. It contained some good Odontoglossum crispum and O. luteopurpureum, O. Hallii, a fine O. hastilabium and others, some good Cattleya Mossiæ, with its varieties Reineckeana, Rappartii, &c., C. Mendelii, C. Skinneri, Cypripedium callosum Sanderæ, Miltonia vexillaria and its variety Luptoni, and other showy things.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), sent two forms of the natural hybrid *Zygopetalum* × Ballii, the best of which received a First-class Certificate. The sepals and petals are greenish-white, heavily marked with purple up the centre, and the lip blotched with rich purple at the base.

The Marquis de Wavrin, Chateau de Ronsele, Somerghem, Belgium, (gr. M. Gerard de Geest), received a First-class Certificate for Cattleya citrina gigantea, an exceptionally large and very richly coloured form.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent the beautiful Lælio-cattleya × *Zephyra alba*, and Cattleya Schilleriana Westfield var., the latter an exceptionally large and richly coloured form, which gained an Award of Merit.

R. Brooman White, Esq., Arddarroch, N.B., obtained an Award of Merit for Odontoglossum × loochristiense Arddarroch var., a noble form bearing a spike of fourteen flowers and buds. The flowers are very large and perfect in shape, yellow with paler centres, and handsomely blotched with brown.

E. Roberts, Esq., Park Lodge, Eltham, showed a fine Cattleya Mendelii, the new Javan Cypripedium glaucophyllum, several fine C. bellatulum, C. Godefroyæ leucochilum, C. concolor longipetalum, C. Lowii, C. × Helvetia, C. × Euryale and C. × selligerum majus.

J. Foster Alcock, Esq., Northchurch, Berkhampstead, sent a few spotted Odontoglossum crispum and O. × Adrianæ, flowering for the first time.

T. Mitchell Eccles, Esq., M.P., Quarry Bank, Blackburn (gr. Mr. Pimlott), sent a good form of Cattleya Mendelii.

Messrs. Charlesworth & Co., Heaton, Bradford, staged an exceedingly rich group of 200 square feet extent, remarkable alike for quality and good culture, which deservedly obtained a Gold Medal. It contained many fine Odontoglossums, as the richly coloured O. × crispo-Harryanum heatonense, many choice forms of O. crispum, including xanthotes, Victoria-Regina, &c., a fine O. × Rolfeæ, O. × ardentissimum Princess Margaret, rich purple almost throughout, O. × Phœbe (cirrhosum × crispum), well combining the characters of the two parents, two forms of O. × Othello

(O. × Adrianæ × Harryanum), O. tripudians, several good O. × Wilckeanum, of which the variety oakwoodiense was an enormous, cream yellow, beautifully blotched form, also a prettily blotched hybrid between O. × Adrianæ and O. crispum, a brilliant and varied series of forms of Lælio-cattleya × Fascinator, a lot of L.-c. × G. S. Ball, × Mercia, × luminosa, × callistoglossa, &c., a lot of good Phalænopsis amabilis Rimaestadtiana, P. violacea, some good Miltonia vexillaria, M. Phalænopsis, Oncidium Gardneri, O. leucochilum, O. superbiens, O. macranthum, Cattleya Skinneri alba, a beautiful series of C. Mossiæ white and coloured, C. intermedia nivea, Anguloa Clowesii, Scuticaria Steelii, some profusely flowered Maxillaria luteoalba, Lælia tenebrosa, L. grandiflora, Brassia brachiata, Zygopetalum Protheroeanum, a profusely flowered Ansellia confusa, Cypripedes, and others too numerous to mention, the whole being most effectively arranged.

Messrs. Sander & Sons, St. Albans, also staged a remarkably rich group in a space of 200 square feet. The Cattleyas were superb, and included some beautiful forms of C. Schrœderæ, one called The Baron being large, perfect in form, and the throat of the lip apricot, shading off to violet, many good white and coloured C. Mossiæ, C. Skinneri and var alba, C. × Whitei splendidissima, C. Mendelii, the beautiful C × Madame Myra Peeters, a lot of good Lælio-cattleya × Canhamiana, × callistoglossa, × H. Greenwood, &c., Brassocattleya × Digbyano-Mossiæ, a fine Maxillaria Sanderiana with seven flowers, Calantha veratrifolia, a fine Renanthera Imschootiana, Dendrobium thyrsiflorum, hybrid Phaius, many superb Odontoglossums, including crispum varieties, tripudians, × Rolfeæ, × amabile, × Wilckeanum, some fine × ardentissimum forms, ramosissimum cordatum aureum, × crispo-Harryanum, &c., Sophrolælia × Orpetiana, some good Miltonia vexillaria, Oncidium leucochilum, Phaius hybrids, a fine Cypripedium callosum Sanderæ with seven flowers, some good C. Lawrenceanum, and others, Epidendrum aromaticum, Cymbidium Lowianum, Phalænopsis amabilis, Chondrorhyncha Chestertoni, Angræcum Sanderianum, Trichopilia coccinea, Bifrenaria Harrisonæ, Promenæa xanthina, Vanda Parishii, Epiphronitis × Veitchii, and other good things. A Gold Medal was awarded for Orchids and Nicotianas.

Messrs. James Cypher & Sons, Cheltenham, had a very beautiful group on the ground on one side of the tent. It was very artistically arranged with ferns, palms and foliage plants, and gained a Silver Cup. It contained four beautiful specimens of Cattleya Skinneri, some good C. Mossiæ, Lælia purpurata and tenebrosa, Odontoglossum crispum, × Andersonianum, and Hunnewellianum, Miltonia vexillaria, Calanthe veratrifolia, Oncidium Papilio, crispum, and Marshallianum, the noble Vanda teres gigantea, a robust form having the spikes much longer and flowers larger than in the

type, Cymbidium Lowianum, Epidendrum vitellinum, Phalænopsis amabils Rimestadtiana, the graceful Cœlogyne Dayana, Masdevallia coccinea varieties, Thunia Bensonæ, Brassavola Digbyana, Cypripedium callosum Sanderæ, × Goweri magnificum, a fine hybrid between C. Lawrenceanum and C. Mastersianum, and other good things.

Messrs. William Bull & Sons. Chelsea, staged a very fine group, which gained a Silver-gilt Flora Medal. It contained a lot of good Cattleya Mossiæ, a hybrid between C. labiata and Aclandiæ, some good Lælia purpurata and Odontoglossum crispum, O. × Adrianæ, × ardentissimum, triumphans, × Wilckeanum, cordatum, &c., Brassavola Digbyana, Oncidium ampliatum, Epidendrum atropurpureum, Cochlioda Nœtzliana, Masdevallias Veitchiana, coccinea, × Courtauldiana, Estradæ, × Measuresiana, and the rare M. Schlimii, and other showy species of the season.

Messrs. Hugh Low & Co., Bush Hill Park, also staged a very effective group, including Phalænopsis amabilis Rimestadtiana, rosea and Lueddemanniana, Dendrobiums Bensonæ, Dearei, clavatum, and chrysotoxum Cattleyas Schilleriana, intermedia alba, a fine specimen of Skinneri, × Parthenia Prince of Wales, some good Mossiæ and Mendelii, Platyclinis latifolia, Epidendrums campylostalix, glumaceum, atropurpureum, and alatum, Calanthe veratrifolia, the rare Bornean C. grandiflora igneo-oculata, Ansellia congoensis, Miltonia Warscewiczii, Arpophyllum spicatum, Lycastes aromatica and cochleata, Renanthera Imschootiana, two good Cypripedium callosum Sanderæ, G. × Gowerianum, Oncidium leucochilum, Vanda teres, Epiphronitis × Veitchii, Masdevallia tridactylites, M. Houtteana, and various other good things. A Silver-gilt Flora Medal was awarded for Orchids and Carnations. An Award of Merit was given to Cattleya Mendelii Cicero, a very fine form.

Mr. John Robson, Altrincham, staged a good group of the showy species of the season, to which a Silver Flora Medal was awarded. Among noteworthy plants we observed some good Cattleya Mossiæ and Skinneri, a lot of good Odontoglossum crispum, together with O. × ardentissimum, × Coradinei, Hallii, × Adrianæ, luteopurpureum, some good Lælia purpurata, Cypripedium callosum Sanderæ, × gigas Corndeanii, × grande, × Schrœderæ, two fine C. Rothschildianum, Masdevallia ignea, Oncidium Marshallianum, &c.

Messrs. Stanley & Co., Southgate, also received a Silver Flora Meda, for a fine group, containing numerous good forms of Cattleya Mossiæ, some good C. Mendelii, C. intermedia alba, C. citrina, and C. Aclandiæ with five flowers on two scapes, Oncidium crispum grandiflorum, leucochilum, sarcodes, and Gardneri, Cypripedium Rothschildianum, some good O. crispum, luteopurpureum, &c., Masdevallia Veitchiana, Phalænopsis amabilis Rimestadtiana, Promenæa xanthina, and other good things.

M. Ch. Vuylsteke, Loochristi, Ghent, sent a small but exceedingly choice group, consisting of Odontoglossum × venustulum, O. × formosum (Rolfeæ × Pescatorei), O. × percultum Cybele, and two others which obtained Certificates. An Award of Merit was given to O. × Lawrenceanum Adonis (truimphans × crispo-Harryanum), a very fine form having the yellow sepals and petals heavily blotched with dark brown, and the lip white blotched with purple. O. × amabile Ixion (Harryano-crispum × crispum) obtained a First-class Certificate. The flowers are large and perfect in shape, bluish-white, heavily marbled and spotted with brownish rose, and the lip white with purple markings round the crest.

Messrs. W. Cutbush & Sons, Highgate, received a Botanical Certificate for a good plant of Bletia hyacinthina alba with eight spikes. They also included a lot of hardy Orchids in a group of herbaceous plants outside, which gained a Gold Medal. Here we noticed Cypripediums montanum, pubescens, acaule, macranthum, many fine spectabile, Orchis foliosa, militaris, fusca, papilionacea, maculata alba, and pyramidalis, Nigritella angustifolia, Platanthera bifolia, Serapias lingua, Ophrys apifera and muscifera, Aceras anthropophora, and the North American Liparis liliifolia.

Other herbaceous groups also contained good examples of various hardy Orchids.

OBITUARY.

SIR HUGH LOW.—A veteran whose name is familiar in the Orchid world has just passed away in the person of Sir Hugh Low, G.C.M.G., who died at Alassio on April 18th last. He was born on May 10th, 1824, and thus had reached the mature age of eighty years. Although perhaps best known to the older generation of Orchidists, it is hardly necessary to remark that Low was the discoverer and introducer of such sterling Orchids as Cypripedium Lowii, Vanda Lowii (now known as Arachnanthe), Dendrobium Lowii, Cœlogyne pandurata and C. asperata. Coming of a good old horticultural stock, the Lows, of Clapton, he was a lover of plants and a keen observer, and it is not surprising that he made good use of his opportunities when the fates carried him into the Far East. About the year 1840 Mr. Low had obtained an appointment to the Hon. East Indian Company, but happening to go out on the same vessel with Mr. (afterwards Sir James) Brooke, then on his way to Borneo, he was induced to give up his Indian appointment and join the future Rajah as secretary and companion. After a residence of about thirty months in Sarawak and the West Coast of Borneo. he made a trip home and then published, in 1848, a work entitled "*Sarawak, its inhabitants and productions*," being notes during a residence in that country with His Excellency Mr. Brook. By Hugh Low Colonial

Secretary at Labuan." In it he remarks:—"My object (the collection of plants and seeds), led me more into the country, and amongst the tribes of Aborigines, than any other Englishman who has yet visited the shores of this island." The work contains a fund of information, and the following note on the Orchids of Borneo will give some idea of his abilities as an observer and worker. Speaking of the flowers of Borneo, he remarks:—

"As in all tropical countries, the tribe Orchidaceæ is in profusion and beauty, and on the open banks of the rivers, where the sun can shed its vivifying influence upon them, these delightful epiphytes decorate with their fragile but showy forms the otherwise naked but unsightly stumps of decaying forest trees. The most gaudy are, perhaps, the various species of Cœlogyne, called collectively by the natives the 'bunga kasih-an,' or the flowers of mercy; they are all highly fragrant, and their white and orange coloured flowers are exceedingly delicate and beautiful. Several Vandas, of which the continent of India has produced so many for the ornament of our gardens, are found here inferior to none of those from India, many of which are, by one gigantic species, far surpassed in beauty. This I have been successful in introducing into England, and Dr. Lindley has done me the honour of naming it after me [V. Lowii]. One kind of the beautiful genus Cypripedium, or ladies' slipper, so named from the curious form of the labellum, far surpasses in beauty any of its tribe from other countries. The Dendrobiums, which in India are so gorgeous, here dwindle, for the most part, into insignificant flowers, while the species of Eria, which are abundant, are so beautiful that, were they once seen, would probably raise their hitherto despised genus in the estimation of the English cultivator of these beautiful plants. Of the smaller kinds the Cirrhopetalon, Bulbophyllum, and some other genera, though not showy, are curious, delicate, and beautiful. Several new species and some genera I have had the pleasure of introducing into England" (pp. 53, 54).

His activity was equally great in other branches of natural history, as the book itself bears testimony.

Returning immediately to Borneo, he accompanied Mr. Brooke when the latter was made Acting Governor of Labuan in 1848, and eventually became Colonial Treasurer of the island. He made various trips to the mainland, and in 1851 made the first attempt to ascend Mt. Kina Balu, accompanied by natives only, and the results were remarkable on account of the discovery of several remarkable pitcher plants, never before seen, but now familiar. Thomas Lobb had reached the foot of the great mountain, but was not allowed by the natives to ascend. In 1858 Low again ascended Kina Balu in company with Mr. (now Sir) Spencer St. John, author of *Life in the Forests of the Far East*, in which an account of this journey, accompanied by maps, is given.

ODONTOGLOSSUM CRISPUM VAR. THEODORE PAUWELS.

WE have received from M. Theodore Pauwels, Orchid Villa Nursery, Meirelbeke, Belgium, a flower of a handsome form of Odontoglossum crispum called var. Theodore Pauwels, together with a photographic block of the same, which we now insert (fig. 39). The flower sent has an expanse of rather over $3\frac{1}{4}$ inches across the petals, which latter are just over an inch broad, so that the figure is slightly enlarged. The shape, as will be seen, is excellent, and both the sepals and petals are handsomely blotched with

Fig. 39. ODONTOGLOSSUM CRISPUM VAR. THEODORE PAUWELS.

deep purple-red, the blotches being much confluent on the sepals. There is also a large cinnamon blotch on the lip. It will rank as one of the elite forms of this beautifui species. There are two or three other blotched forms with very similar characters, and how far the present one differs from them we are unable to say, as so many have received varietal names that it is impossible to keep a record of all. And we may again point out that they are individuals rather than varieties in the true sense.

ODONTOGLOSSUM × ADRIANÆ GRANDIFLORUM.

A REMARKABLE Odontoglossum has just flowered in the collection of Darcy E. Taylor, Esq., The Rocks, Marshfield, Chippenham. It was obtained last year as a small plant of O. crispum from Messrs. Charlesworth, and the flower was sent to us as a spotted form of that species. The characters, however, are more in agreement with O. × Adrianæ, except with regard to size, which is exceptional, for the flower has an expanse of over 3½ inches across the petals. The influence of O. Hunnewellianum is much too obvious to be overlooked, and we propose to call it O. × Adrianæ var. grandiflorum, though there is just the possibility that O. × Adrianæ

FIG. 40. ODONTOGLOSSUM × ADRIANÆ GRANDIFLORUM.

recrossed with O. crispum might produce such a hybrid. The photograph, taken by Mr. Reffill, represents the flower sent considerably below natural size. As regards shape nothing need be said. The ground colour is light yellow, slightly tinged with rose, especially on the sepals, while the lip is rather deeper yellow, and the spots bright red-purple. The crest has three or four lateral teeth on each side, and the column wings are broad, crenulate, light yellow, spotted and margined with brown. Whatever its exact origin it is certainly a very handsome thing, and should be taken care of. We shall hope to see it again when the plant becomes strong.

R. A. R.

CALENDAR OF OPERATIONS FOR JUNE.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THE general treatment recommended in last month's Calendar should still be maintained, remembering that the temperature and conditions of the atmosphere play a most important part in cultivating Orchids. If these are well regulated, and the plants are kept clean, and the compost in good condition, robust and healthy growth will inevitably result. Nothing else is necessary, except perhaps a little trouble in finding the most suitable positions in the house for any given species it is desirable to cultivate. This is an important matter, for, as previously stated, one Orchid will luxuriate here and another there, and thus the various positions in the house, high or low, moist or dry, sunny or shady may all be made good use of. Position, in fact, is of more real importance than is generally supposed for the successful cultivation and flowering of Orchids, and those who have not had much experience with them should pay particular attention to this important matter. Let it always be borne in mind that much depends upon the position in the house that a plant may occupy, and should a plant not grow kindly, do not hesitate to change its position, say from one end of the house to the other, or from a shady place to a sunny one, or vice versa, to the most airy or to the dampest place. In many cases it is evident that the plants experience a decided advantage in one position which is denied to them in the other, and it is therefore most important that these places should be found out and made use of, for it is then that Orchids grow so freely and give so little trouble.

Cochlioda Noetzliana, is a pretty thing, as are also C. rosea, C. sanguinea, and C. vulcanica. They all require identical treatment to the cool Odontoglossums, excepting, perhaps, that as they are rather smaller growing plants, they will have a better chance of receiving their full share of light and air if grown in pans and suspended from the roof. They grow well in a mixture of peat and moss, with the addition of a few oak leaves and a little silver sand, pressed rather firmly. When thus potted the roots, being of a fine and fibrous nature, last longer in a good healthy condition, which is very important with fine, or small rooting species, for they are invariably averse to root disturbances.

Cattleyas Mossiæ and Mendelii, and others that still remain, will this month take their turn at the potting bench, and have done to them what is necessary. The usual compost and the usual method of potting, as before given, should be meted out to the whole of this genus. When doing C. Bowringiana let the plants be potted rather high up, as the rhizome strikes a downward course, and if not well raised will soon get below the level of the rim. Regarding the Lælias, of which L. purpurata and

L. tenebrosa are conspicuous, the same attention may be given when out of flower. Likewise the Dendrobes, a few of which flower at this season, giving a great effect by lending lightness and grace, and forming a contrast, as it were, to the more heavy flowers of Cattleyas and Lælias. I refer to such species as D. thyrsiflorum, densiflorum, Farmeri, clavatum, Bensonæ, moschatum, transparens, suavissimum, and crystallinum. As soon as they go out of bloom, they will commence to grow, and when roots appear at the base of the young growth they should be potted at once, if this be necessary. Use for compost good fibrous peat, with a small proportion of sphagnum moss ; give plenty of drainage, and give water sparingly until the roots have worked well into the compost.

Chysis bractescens is a noble Orchid when its flowers are produced in large trusses, which is the case only when the pseudobulbs are large themselves. It is an easy species to succeed with when newly imported, but, like some few others, will deteriorate if not given a treatment meeting its requirements in a reasonable degree. It will do well and last a longer period treated as an intermediate Orchid, but does far better eventually if placed with the Dendrobiums when making its growth, and resting with them afterwards. It is best accommodated in suspended pans, and delights in a liberal supply of water when growing.

Cœlogyne Dayana, when out of flower, may be shifted into larger pans or baskets. This beautiful garland Orchid is always greatly admired, its long drooping racemes adding variation to the already long list of Orchids that bloom in May and June. It is not a difficult Orchid to cultivate, and may be treated as an intermediate or stove plant. It delights in liberal watering when growing, and comparative drought when resting.

Odontoglossum citrosum, having passed out of bloom, will now be growing, and may be re-potted when necessary. It is a species apt to shrivel a good deal from the effect—unless exceptional care be taken for a few weeks afterwards. I prefer to grow it in suspended pans, and use a compost of two parts fibrous peat to one of moss.

Cattleya Warscewiczii may now be given water more freely. No good purpose is served by keeping it very dry after this date, as those that are going to flower will already have the flower sheath formed within the young break.

The deciduous Calanthes are now becoming strongly rooted, and may likewise be watered more freely, but still carefully, as the disease which comes in the young foliage in the form of black spots is frequently the result of over-watering before the plant has become well rooted, though it is not always due to that. Generally speaking, over-watering of any of the plants need not now be feared, that is, provided the compost they are growing in, as well as the plants themselves, are in good condition. C. veratrifolia, and

others of the evergreen section, are handsome and well worth growing, though perhaps not so useful as the deciduous kinds. They delight in the temperature of the Intermediate house, and should be kept moderately moist and shady. A good time for re-potting is as soon as the flowering season is over. They grow well in a compost of good fibrous loam and peat in equal parts, intermixed with a little good leaf soil and silver sand.

The Mexican Lælias and other Orchids under the same treatment will now dry very quickly, owing to the action of sun and air; and should receive water in abundance. Many may not actually be making new growth, though they should not on that account be kept dry, but treated liberally, and when the new breaks push they will quickly form new pseudobulbs. The inmates of this house delight in being syringed in the afternoon, when the air is reduced, and the shading removed.

The re-potting of Masdevallias may and should be done now without delay, excepting those in flower, and they should be attended to when they have done blooming. Pot in a mixture of peat and moss in equal parts; half fill the pots with drainage, and press the compost moderately firm only. The small growing kinds are suspended in pans or baskets, or if in pots should be placed well up to the light. Masdevallias should be kept as cool as possible during summer, but during winter the temperature which suits the ordinary cool-house Orchids is about five degrees too cold for them. M. Ephippium, M. tovarensis, and the Chimæra section are best grown in intermediate temperature the whole year round. All of them delight in a good supply of water during the growing season, and if new material is given to the roots at least once in two years successful cultivation is assured.

Along with the Masdevallias the pretty little Sophronitis grandiflora grows very freely, if placed in small pans, and this is the right time to give new material to the roots. This is a good season to re-pot Ada aurantiaca. It may be grown with the cool Orchids during summer, but, like the Masdevallias, requires a warmer winter temperature, for if kept too cool the leaves turn a yellowish tint, and become badly spotted, and this should be avoided if possible, as they frequently then deteriorate very rapidly.

POLYSTACHYA MYSTACIDIOIDES.

A PLANT of this remarkable species, received from the Brussels Botanic Garden, is now flowering at Kew. It is wholly unlike its allies, having equitant leaves, like some Dendrobium of the section Aporum, or of an equitant-leaved Mystacidium, with which it is compared by the author. It is a native of the Congo, and was described by De Wildeman in 1903 (*Pl. Utiles Congo*, i., p. 133), from specimens collected by M. Lewis Gentil. It

is said to an epiphyte having branched stems, which ultimately attain a mètre in length, but the Kew plant is only a few inches high. The equitant leaves are lanceolate in shape, 1-1½ inches long, bearing numerous very minute dusky dots on a dull green ground, and the axillary solitary flowers are half an inch long. The sepals and petals are subconnivent, lightly suffused with brownish flesh colour on a pale ground, and the entire nearly truncate lip is lurid purple. The pollinia are attached to a very small crescent-shaped gland. The flowers bear a considerable resemblance to those of Maxillaria capula, both in their attachment and general appearance. It is an interesting and quite aberrant species of the genus.

R. A. ROLFE.

THE HYBRIDIST.

ODONTOGLOSSUM × OSSULTONI.—This is a very charming secondary hybrid Odontoglossum, raised by Messrs. Charlesworth & Co., Heaton, Bradford, from O. × crispo-Harryanum crossed with a fine spotted form of O. Pescatorei. It is fairly intermediate in character, and bears an unmistakable resemblance to O. × Rolfeæ, except that the Pescatorei character is rather more marked. The sepals and petals are cream-yellow, the former being flushed with rose, and both bear numerous brown spots and blotches. The lip is strongly pandurate, cream yellow, and much spotted with brown on the basal half, and the crest less feathered than in most of the Harryanum hybrids. The column wings are rounded and very slightly denticulate. The flower at present measures slightly over three inches across its broadest diameter, but is not fully developed, for Messrs. Charlesworth state that it is only a small seedling flowering for the first time. The plant is now in the collection of the Earl of Tankerville, and is named, by request, after his son, Lord Ossulton. It is a very promising hybrid.

PAPHIOPEDILUM × DESCOMBESII VAR. MARLFIELDIENSE.—A very richly coloured hybrid, derived from Paphiopedilum barbatum Warneri ♀ × P. ciliolare ♂, was exhibited at a meeting of the Manchester Orchid Society on April 13th, by R. le Doux, Esq., Marlfield, West Derby, Liverpool (gr. Mr. Davenport). The Committee named it Cypripedium × marlfieldiense and gave it an Award of Merit, but it proves to be a variety of a hybrid previously raised. It is most like the seed parent in shape and colour, but is considerably enlarged, and the petals are much more strongly ciliate. There is a row of brown warts on the outer margin of the sepals, in which the influence of the pollen parent is seen, but there are very few additional spots. It is excellent both in shape and colour.

PAPHIOPEDILUM × BRUNETTE.—This is a very promising hybrid raised

by of O. O. Wrigley, Esq., Bridge Hall, Bury, from Paphiopedilum × Lathamianum (villosum × Spicerianum) crossed with the pollen of P. Wottoni (callosum × bellatulum). The villosum influence is strongly apparent in the shape of the flower and the villose peduncle, while the colour may be described as intermediate between the seed plant and P. × Harrisianum superbum, and the specific name has been suggested as descriptive of its colour. The characters of P. Spicerianum and P. bellatulum are so much blended as not to be distinctively traceable. Mr. Rogers remarks that at present it is only a small plant, occupying a 2½ inch pot, and may come larger another time.

ORCHIDS IN SEASON.

A FLOWER of a very handsomely spotted form of Odontoglossum crispum is sent from the collection of John S. Moss, Esq., Wintershill Hall, Bishops Waltham. It is from a tiny imported plant, and has only produced two flowers which much resemble those of O.c. Veitchianum, but has relatively broader segments.

Several interesting flowers are sent from the collection of J. J. Neale, Esq., of Penarth, by Mr. Haddon. Vanda Denisoniana is a beautiful cream yellow species not too often seen in cultivation at the present time. Epidendrum atropurpureum is a very fragrant and handsome flower having a large rose-purple lip, and dusky purple-brown sepals and petals. E. alatum is a smaller Central American species. Oncidium is represented by a fine form of O. Marshallianum and good flowers of O. Kramerianum, leucochilum, ampliatum and macranthum, and Masdevallia by M. radiosa, M. Moensii, M. Chestertoni, and M. ludibunda. Other interesting things are a good Cattleya Skinneri, C. Forbesii, Paphiopedilum hirsutissimum, Leptotes bicolor, the richly coloured Broughtonia sanguinea, Cymbidium aloifolium, Lycaste cruenta, a good Odontoglossum Hallii leucoglossum, the rare Campylocentrum micranthum, Eulophia euglossa, and Diacrium bilamellatum.

A flower of the handsome Brassocattleya × Digbyano-Mossiæ excellens is sent from the collection of the Right Hon. Joseph Chamberlain, M.P., by Mr. Mackay. It is large and of excellent shape; the sepals and petals bright rosy mauve, and the handsomely fringed lip light blush, with a light yellow disc, and some dark maroon-purple veining in the throat. An inflorescence of a puzzling hybrid is also sent, which was purchased as a hybrid between Cattleya labiata and Lælia albida, but there is no trace of the Lælia parentage, either in the flower or in the pollinia. We should suggest Cattleya Skinneri as one parent, for the shape, texture, and colour of the lip suggest such an origin, as well as the strongly convolute side lobes

and the small column. The sepals and petals are rosy mauve, three inches long, and show the influence of some Cattleya of the labiata group. We should hardly think it a C. Bowringiana hybrid flowering out of season. The parentage may be cleared up hereafter.

A NEW ORCHID FROM NEW GUINEA.—The *Australian Garden and Field* gives particulars of a new Dendrobium discovered in New Guinea, by an amateur, Mr. E. B. Cox, of Walkerville. Among other plants from New Guinea was an Orchid which Mr. Cox could not identify. It was eventually submitted to Mr. Guilfoyle, of the Melbourne Botanic Gardens, who wrote: "The New Guinea Orchid is undoubtedly a Dendrobium, but has never yet been described. To make certain about it I submitted it to Mr. F. Manson Bailey, the Government Botanist of Queensland, who has had opportunities for studying the Botany of New Guinea, and in agreeing with me as to the genus, suggested the specific name of D. fasciculatum, which I think is a very good one, as the flowers are in a dense bundle of bracts. The plant is one more addition to the 375 Dendrobiums known and described."—*Garden*, April 8, 1905, p. 201. We hope some further details will be forthcoming, for we do not see how the plant is to be recognised from such a description, and the paper in question is inaccessible.

NOTES.

THE next meeting of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, on June 20th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The last issue of M. Goossen's interesting little *Dictionnaire Iconographique des Orchidées* contains figures of Aeonia polystachya, Catasetum tabulare, Cypripedium × callosum-Charlesworthii, C. × Chamber-Leeanum, C. × Hera var. Gillianum, Dendrobium × chlorostele var Juno, D. Findlayanum (unfortunately figured as D. crassinode), Epidendrum dichromum, E. Lambianum, De Wild., E. variegatum, Megaclinium Fuerstenbergianum, De Wild., Odontoglossum crispum Luciani, and Vanda cœrulescens var. Boxalli.

ORCHID PORTRAITS.

CYMBIDIUM RHODOCHILUM.—*Gard. Mag.*, 1905, p. 313, with fig. *Journ. Hort.*, 1905, i., pp. 442, 443, with fig.

CYPRIPEDIUM NIVEUM.—*Journ. Hort.*, 1905, i., p. 398, 399, with fig.

DENDROBIUM CRASSINODE BARBERIANUM.—*Journ. Hort.*, 1905, i., p. 421, with fig.

DENDROBIUM NOBILE (specimen plant).—*Garden*, 1905, i., p. 282, with fig.

DENDROBIUM PARCUM.—*Gard. Chron.*, 1905, i. p. 314, fig. 132.

D. PRIMULINUM.—*Journ. Hort.*, 1905, i., pp. 376, 377, with fig.

LISSOCHILUS MAHONI, Rolfe.—*Gard. World*, 1905, pp. 415, 417, 421, with figs.

LISSOCHILUS PURPURATUS.—*Gard. Chron.*, 1905, i., p. 290, fig. 119, 120.

LISTROSTACHYS BIDENS, Rolfe.—*Bot. Mag.*, t. 8014.

ODONTOGLOSSUM × ARDENTISSIMUM SIBYL.—*Gard. Mag.*, 1905, p. 285, with fig.

ODONTOGLOSSUM × CRISPO-HARRYANUM KING EDWARD.—*Gard. Chron.* 1905, i. p. 276, fig. 114.

O. CRISPUM SOLUM.—*Gard. Chron.*, 1905, i., p. 322, fig. 134.

O. RAMOSISSIMUM BURFORD VAR.—*Garden*, 1905, i. p. 271, with fig.

ODONTOGLOSSUM × THOMPSONIANUM.—*Gard. Chron.*, 1905, i. p. 285, fig. 117; *Garden*, 1905, i., p. 290, with fig.

O. × WIGANIANUM.—*Gard. Chron.*, 1905, i., p. 274, fig. 122.

PHAIUS TUBERCULOSUS, Thouars.—*Garden*, 1905, i., p. 287, t. 1274.

ZYGOPETALUM × CLAYI.—*Journ. Hort.*, 1905, i., pp. 398, 399, with fig.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

C. P. We cannot find any trace of fungus on the Cypripedium leaves sent The disease is generally attributed to drip or too much moisture in the air with a falling temperature, especially during the winter months—in other words, a chill. Is this possible in your case?

J. H. The Orchid sent is Maxillaria tenuifolia, Lindl., a species of the Caulescent group.

W. R. S. The flower sent is not a form of Cattleya Mendelii, but a good typical form of C. Mossiæ, and quite bright in colour. We cannot suggest through what mistake it came to be sold as C. Mendelli, but the plants are much alike when out of flower. It is worth taking care of, but we cannot suggest its monetary value.

H. H. Eulophia euglossa, Rchb. f. and Pleurothallis sp., not identified.

J. W. P. Odontoglossum × Wendlandianum.

E. A. Next month.

R. R. Try some large florist in London or one of the principal towns.

Photographs received, with thanks. T. L. M., D. B. C.

E. O. O. Next month. The great pressure on our space this month with the shows have unavoidably postponed several important matters.

BOOKS RECEIVED. "Annuals," by T. W. Sanders, F.L.S., London.—Agricultural and Horticultural Association, Ltd., 92, Long Acre, W.C.

Catalogue received. Illustrated catalogue of Phalænopsis Rimestadiana and other Orchids offered for sale by Messrs. Charlesworth & Co., Heaton, Bradford.

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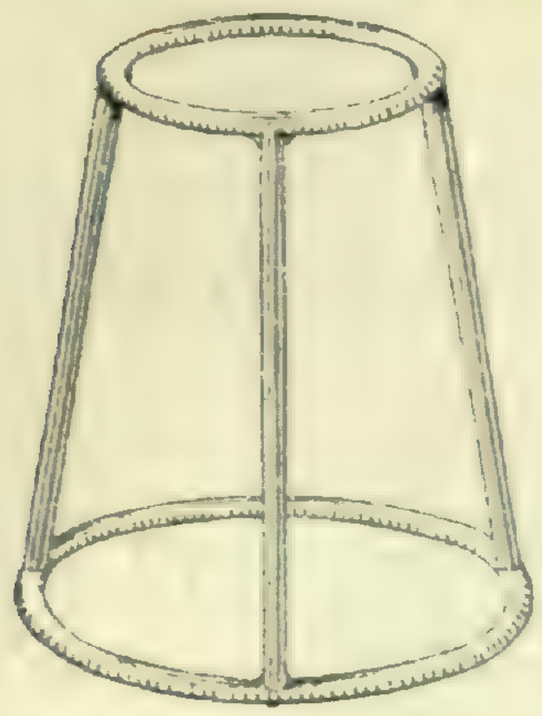

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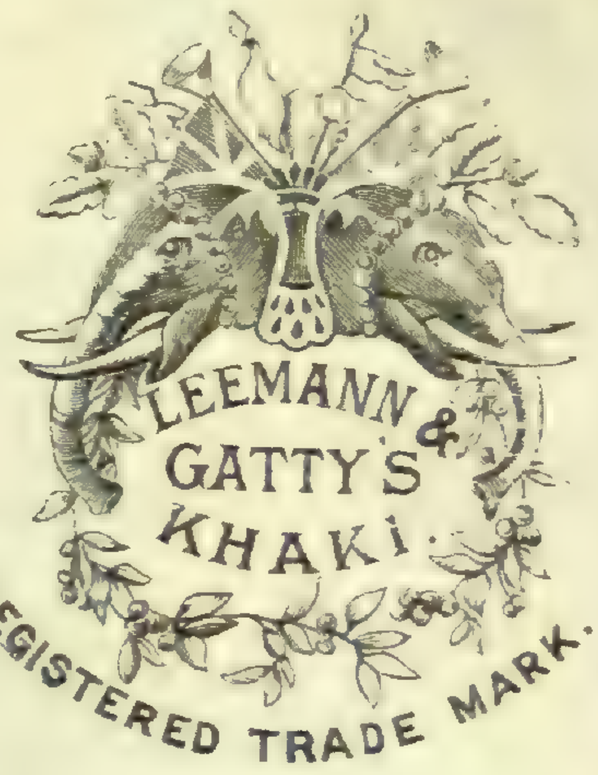

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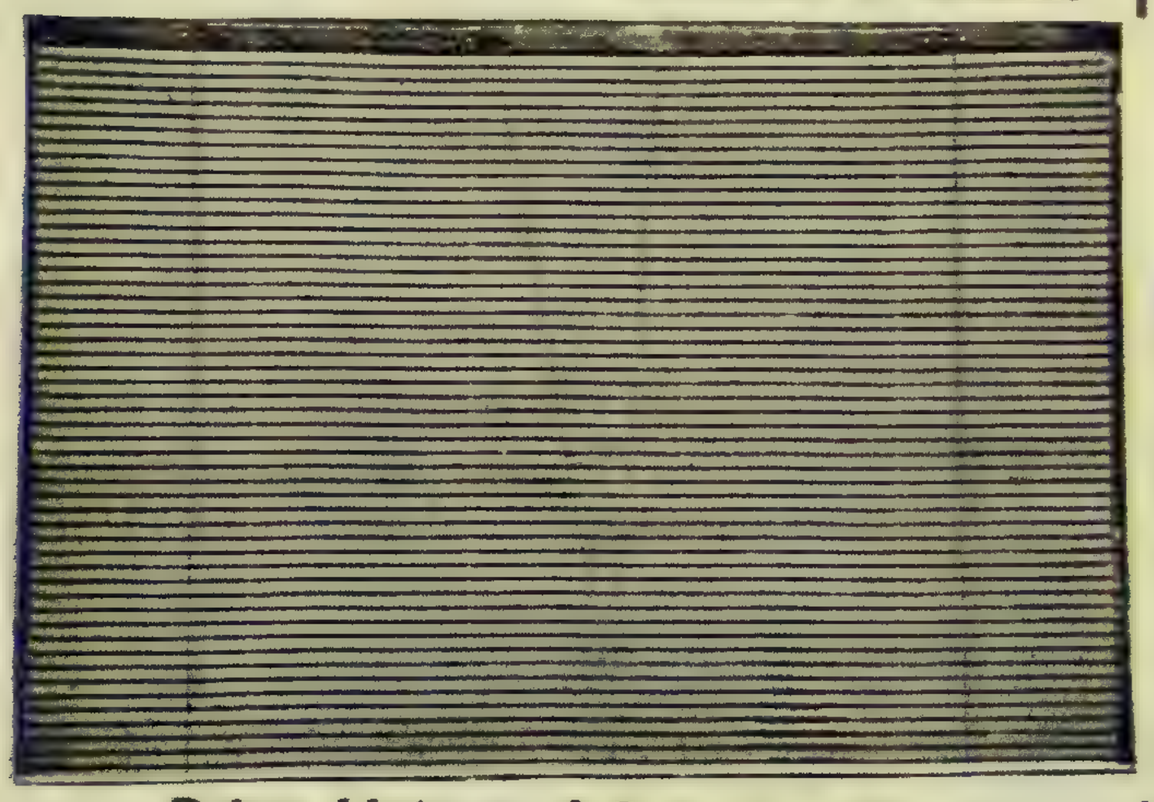

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THE ORCHID REVIEW.

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DIES ORCHIDIANI.

THE last Temple Show failed to produce anything sensational among Orchids comparable with the remarkable Odontioda × Vuylstekeæ of the previous year, but another remarkable generic cross was rapidly maturing its flowers at that time, and it put in an appearance at the R.H.S. meeting on June 20th. I allude to the handsome Odontonia × Lairesseæ, of which a figure and description appears on page 217. In some respects the cross is as remarkable as its predecessor, for Miltonia Warscewiczii and Odontoglossum crispum are certainly dissimilar enough, but the hybrid has taken rather too much of the character of the Miltonia, which I understand was the pollen parent. Perhaps it was this fact rather than anything else which induced the Orchid Committee to give it only an Award of Merit, for it is certainly not inferior to the pollen parent in any respect, and this has already received a First-class Certificate from the Society. That, however, was long ago, and "other times, other manners." The novelty is a fine one in every respect, though it had lost a little of its brilliance, owing to the time it had been expanded before the meeting. It is also remarkable as the first hybrid between the two genera which has flowered, though I believe several attempts to cross them together have previously been made, but without success.

To M. A. de Lairesse, of Liége, belongs the credit of producing this fine hybrid, and this reminds me of the distinct and striking Odontoglossum × Lairessei which was raised in the same establishment, between O. Cervantesii and O. Edwardii, and was figured at page 81 of the present volume. This was the first hybrid from O. Edwardii to flower, though one raised at an earlier period between the latter and O. crispum was only outstripped in the race by a few weeks, namely O. × Thompsonianum, which appeared at the R.H.S. meeting on April 25th, and was distinguished by the award of a First-class Certificate. This also is a remarkable hybrid, though I do not see in what its superior merit as a horticultural plant consists, in spite of the higher award granted. It has retained rather too much of the O.

Edwardii character, and the suggestion that it should be again crossed with O. crispum—if this is possible—seems to be a good one.

I feared that these seedlings had been lost, or lost sight of, for I had the pleasure of seeing them some years ago, in Mr. Rappart's collection, though I afterwards heard the correctness of the parentage given completely pooh-poohed, so that I was particularly pleased to see the flowers and to find that the original record was correct.

The hybridising of Odontoglossums is now going on apace, for there is scarcely a meeting in which they are not represented, and quite a number of novelties have appeared this season, three of which are illustrated in the present issue. When the group of twelve hundred figured at page 177 reaches the flowering stage some interesting developments may be expected. I believe that fine batches exist in several other collections, and many of them are already approaching the flowering stage. Speaking of natural hybrids Odontoglossums, some of which were described as "awful to the botanist," Reichenbach once remarked that if somebody would product some artificial hybrids it might be possible to obtain some definite knowledge. That period has evidently arrived, but we have not found out much about natural hybrids even yet. It may come, however, later on.

ARGUS.

CYPRIPEDILUM TIBETICUM.

THIS fine species has now flowered with Messrs. James Veitch & Sons, having been introduced through their collector, Mr. E. H. Wilson, who brought plants home from Tachienlu, in Western Szechuen, near the Thibetan border. It was originally discovered at Chumbi, by a collector of Sir George King, and named by the latter, being described for the first time in 1892 (Rolfe in *Journ. Linn. Soc.*, xxix., p. 320). It is an ally of the Siberian C. macranthum, Swartz, differing in colour and in some structural details. The flowers are as large as those of the species named, and the dorsal sepal and petals have numerous broad blackish-purple lines and some smaller transverse ones, forming a dark reticulation on a greenish yellow ground. The large globose pouch is blackish-purple in front, with a greenish area at the base, and there is some purple reticulation where the two colours join. The petals are strongly pilose on the lower half. It occurs also at Tongolo, in Eastern Thibet, in the province of Yunnan, Western China, and in the Lachen Valley, in altitudes between 9,000 and 10,000 feet. It is figured in King and Pantling's Orchids of the Sikkim Himalaya (*Ann. R. Bot. Gard. Calc.*, viii., p. 341, t. 447). It is the plant

referred to C. macranthum var. ventricosum by Sir J. D. Hooker (*Fl. Brit. Ind.*, vi., p. 170), but is not the C. ventricosum of Swartz. It is an interesting addition to the hardy Cypripedes, and will doubtless succeed under similar treatment. Mr. Wilson states that the species is very common among scrub on the heathlands of the Chino-Thibetan border, between 10,000 and 13,000 feet elevation, growing there in millions.

R. A. R.

ONCIDIUM BERENICE.

A YEAR ago a very handsome rose-purple Oncidium was sent to Kew for determination through Messrs. James Veitch and Sons, and a few days later it also came from Messrs. Sander and Sons, with the information that the plant was a native of Jamaica. The first-mentioned came from Mrs. A. Wilson, Westend, Hambledon, Hants, who afterwards sent a coloured sketch of the plant. This year it has again appeared, in the collection of W. F. Lawrence, Esq., M.P., Cowesfield House, Salisbury. It belongs to the section Equitantia, and possibly to a species which has hitherto been known only from description, namely, O. Berenice, Rchb. f. (*Bot. Zeit.*, 1862, p. 215). It was described in 1862 as a species from the Antilles which had recently flowered with Messrs. Low, at Clapton. The flowers were said to be twice as large as those of O. variegatum, the column wings violet; the lip rose, striped with brown on the isthmus, and with yellow calli; the petals rose, fasciated with dark brown; and the sepals yellow faciated with dark brown. There are dried specimens at Kew of a Jamaican Oncidium, which may belong to the same species. One specimen, collected by March, was named by Reichenbach himself O. velutinum, but it is not his Cuban species of that name, and both were included by Grisebach under O. variegatum. Another, collected by Macfadyen, has been wrongly labelled O. tetrapetalum, and the same thing was received by the late Mr. A. H. Smee, together with the Jamaican O. triquetrum. These have rather smaller flowers than those first mentioned, but otherwise are very similar, and may belong to the same species, though the point cannot be quite cleared up in the absence of authentic specimens of O. Berenice. The chief discrepancy that I can see in the description is in the colour of the sepals, which, in the specimens recently seen alive, were rose, not yellow, but there are some yellowish-brown markings in the centre. Such a handsome West Indian species is hardly likely to have been overlooked all these years, and there are so many points of agreement that I think the name of O. Berenice may be adopted for the present plant. The lip is an inch broad, and except in colour the flower much resembles O. varicosum, though the spike is usually unbranched and the habit of he plant quite different.

R. A. ROLFE.

BULBOPHYLLUM LOBBII AND ITS ALLIES.

SOME time ago a supposed new species of Bulbophyllum was exhibited at a meeting of the R.H.S. by Messrs. Hugh Low & Co., under the name of B. claptonense, but the Orchid Committee considered it too near to the well-known B. Lobbii, and refused to recognise it. It has since flowered on several occasions, and as the receipt of flowers of this and the allied B. Dearei, from the Royal Botanic Garden, Glasnevin, has afforded an opportunity for comparing it with its allies, a few notes on the subject may be acceptable, for the allied species have not been very clearly defined, and the name B. Lobbii now seems to include more than a single species.

B. LOBBII was described in 1847 (Lindl. in *Bot. Reg.*, xxxiii., sub. t. 29), the author remarking:—"How fine a plant of its kind this is, may be surmised by its having been taken for a Cœlogyne. The flowers are yellow, shaded with cinnamon, spotted with light brown, and speckled outside with brown purple. They are full four inches across. We know of no species of the genus comparable for beauty. Mr. Thomas Lobb sent it from Java to Messrs. Veitch, who have it for sale. We find it in Sir W. Hooker's Herbarium, marked Sestochilus, but we do not know on what authority it is referred to that supposed genus. We have named this fine plant after Mr. Thomas Lobb, whose zeal and ability as a botanical collector are beyond all praise, and whose dried specimens are unrivalled for beauty and admirable selection." Soon afterwards it was figured in the *Botanical Magazine* (t. 4532), with the record:—"Our drawing was made from the plant of Messrs. Veitch, after it had gratified the public at the May Exhibition of the Chiswick Gardens for 1850."

In 1851 Lindley transferred the plant to a new genus, under the name of Sarcopodium Lobbii, remarking:—"Between Dendrobes and Bolbophyls there exists a race having the large flowers of the former and the peculiar habit of the latter, and hence referred to the one or the other genus according to the fancy of the observer. . . . They form neither horn nor spur, but are simply inflated and expanded at the base of the sepals. On the other hand, although they grow like Bolbophyls, yet they have no horns to their column, but two pollen masses, and their large leathery flowers afford a further difference." It is unfortunate that Lindley did not, at this period, investigate the basis of his earlier remark, for the plant is simply what Breda had figured and described, as long previously as 1827, under the name of Sestochilos uniflorum (*Gen. et Sp. Orch. Jav.*, t. 3).

Immediately afterwards a smaller, paler form was figured and described by Henfrey under the name of Sarcopodium Lobbii var. Henshallii (*Moore and Ayres Gard. Mag. of Bot.*, iii., p. 269, with plate). It was imported by Messrs. Rollisson, of Tooting, from Java, through their collector, Mr. John

Henshall, and the drawing was prepared from a plant exhibited by them at the May fete of the Royal Botanic Society in the Regent's Park. It is said to have blossomed first in the spring of 1849.

B. SIAMENSE was added by Reichenbach in 1867 (*Gard. Chron.* 1867, p. 572), the author remarking that it had pale yellow, nearly nankin-coloured flowers, striped with purplish brown lines, and a yellow lip with purplish black lines and little points, and a deep yellow disc. It was imported from Siam, and flowered in the collection of John Day, Esq., at Tottenham. The bulbs were said to be long and oval, placed at intervals along the rhizome, and the leaves much longer than those of B. Lobbii. Reichenbach added:—"It stands between B. Lobbii and Reinwardtii, but the petals and the lip furnish very good characters of distinction."

In 1872 it was figured in the *Refugium Botanicum* (ii., t. 116) under the name of B. Lobbii var. siamense, Rchb. f., when the author remarked:—"My first knowledge of this species is due to J. Day, Esq., who imported it from Siam. It appeared also at the Royal Gardens, Kew, in February, 1868, from Colonel Benson, probably from Moulmein. We flowered several specimens at the Hamburg Botanic Garden, which induced me to regard the plant as a variety of the polymorphous B. Lobbii, Lindl." Parish confirmed the Burmese locality by collecting it there, and it has also been found in Assam, by Gage, who collected it near Fort Lungleh, in the South Lushai Hills, at 3,000 to 4,000 feet elevation. It is quite distinct from the Javan B. Lobbii.

B. DEAREI originally appeared in 1883, being exhibited at a meeting of the R.H.S., at South Kensington, by Lt.-Col. Deare, of Englefield Green, near Egham, under the name of Sarcopodium Dearei, a figure and description afterwards appearing in the *Gardener's Chronicle* (1883, ii., p. 109, fig. 17). On May 28th, 1890, it received an Award of Merit from the R.H.S., when exhibited by Baron Schröder, and soon afterwards came the record that it was a native of Borneo (*Journ. Hort.*, 1892, i., p. 237, fig. 38). In 1888 it was reduced to Bulbophyllum by Reichenbach (*Flora*, 1888, p. 156). B. Godseffianum (*Gard. Mag.*, 1890, p. 540, with fig.) is a form of the same species, and is said to have been imported from the South Philippine Islands. It was exhibited by Messrs. F. Sander & Co. at a meeting of the R.H.S. on June 24th, 1890, under the name of Sarcopodium Godseffianum, and received a First-class Certificate.

B. REINWARDTII is another species of this group which appeared in cultivation about ten years ago, being exhibited at a meeting of the R.H.S. by Mr. F. W. Moore, Royal Botanic Gardens, Glasnevin, on August 27th, 1895, when it received a Botanical Certificate (*Journ. Roy. Hort. Soc.*, Proc., xix., p. 207). It is a native of Java, and was originally

described by Lindley as Sarcopodium Reinwardtii (*Fol. Orch.*, Sarcopod., p. 4), from a figure by Reinwardt and dried specimens collected by Thomas Lobb. It was afterwards transferred to Bulbophyllum by Reichenbach (*Walp. Ann.*, vi. p. 246). The flowers are rather smaller than in B. Lobbii, the sepals narrowly acuminate at the apex, while the colour, according to Reinwardt's drawing, is brownish-green, with darker veins, and the lip and foot of the column reddish-purple.

B. CLAPTONENSE. This is the plant which was exhibited at the R.H.S. meeting on June 14th, 1904, by Messrs. Hugh Low & Co., and was recorded at page 213 of our last volume under the name of B. Lobbii var. claptonense. It had been introduced long previously, for in June, 1897, Messrs. Low wrote that they had twice exhibited it before the R.H.S. Orchid Committee. who regarded it as too much like B. Lobbii. It is a native of Borneo, and was introduced from the Palawan River district. It has just flowered at Glasnevin, and a comparison shows that the flower has comparatively shorter, broader, and less acuminate sepals, as well as different colours. The sepals have a yellow ground colour, more or less mottled, and the dorsal sepal much spotted with brown, the petals yellow striped with brown, and the lip purple with a deep orange crest.

There are thus five distinct species of this group in cultivation, and one or two others not yet introduced.

R. A. ROLFE.

LYCASTE TRICOLOR.

THIS is a very distinct and interesting Central American species which is not often met with in cultivation, probably on account of its rather modest colours. It was originally introduced from Guatemala, by Warscewicz, in 1849, and flowered in the collection of Herr Nauen, at Berlin, being described by Klotzsch under the name of Maxillaria (Lycaste) tricolor (*Allg. Gartenz.*, xx., p. 185). Reichenbach transferred it to Lycaste in 1863 (*Walp. Ann.*, vi., p. 603), and afterwards recorded it as a native of the Chiriqui Volcano, at 7,000 to 8,000 feet elevation (*Beitr. Orch. Cent. Amer.*, p. 28, t. 4, fig. 3-5). It has been recently figured (*Cogn. and Gooss. Dict. Orch.*, Lycaste, t. 8), though the purple markings are generally paler than there shown. It is a comparatively small species, the flowers measuring about 1½ inches long. The sepals are light brownish-green, and the petals and lip white dotted with purple, the spots being larger and darker on the lower half of the lip. The name was given in allusion to the three colours. It has again been introduced by Messrs. Hugh Low & Co., of Bush Hill Park, who have recently flowered it.

R. A. R.

HABITATS OF BRAZILIAN ORCHIDS.

THERE are several Brazilian Oncidiums of the O. crispum group which are presumably of hybrid origin, though in some cases there is a difficulty in ascertaining their origin, because of the absence of evidence as to what they came home with, and which of the species grow intermixed. There is singularly little information of this kind on record so far as Brazilian Orchids are concerned. Having the pleasure of meeting M. P. Binot, the well-known importer of Brazilian Orchids, at the Temple Show, I asked him for any information which he could give respecting the Oncidiums of the crispum group, and the Brazilian Miltonias, both of which produce a number of curious intermediate forms.

ONCIDIUM CRISPUM AND O. FORBESII.

M. Binot now sends some information respecting Oncidium crispum and O. Forbesii. O. crispum, he says, grows in four different states or provinces of Brazil, namely, Rio de Janeiro, Minas Geraes, Espirito Santo, and Sao Paulo, and he has sent a living plant from each, so that it will be interesting to compare them together when they flower. In each of these localities M. Binot says O. crispum grows on isolated trees, exposed to light and air, and frequently to full sun, not on trees in the forests. O. Forbesii, on the contrary, grows on higher mountains than O. crispum, and always on trees in forests. They are also fond of shade, being found under the foliage of the trees on which they grow. Facts of this kind should be useful in cultivating the plants. O. Forbesii, M. Binot states, grows both in the Provinces of Rio de Janeiro and Minas Geraes, and he sends a living plant from the former.

On a future occasion I hope to hear what other species, if any, actually grow intermixed with O. crispum and O. Forbesii, because such information is of the greatest value in tracing the origin of the natural hybrids which have appeared. One would infer from the preceding that the two species mentioned do not grow intermixed though Reichenbach thought that his Oncidium litum was a natural hybrid between them. Of course the two might grow near enough together to allow the pollen to be transferred from one to the other, and information on this point would be interesting. Meantime the suggested origin of O. litum must be looked on with suspicion.

THE BRAZILIAN MILTONIAS.

In a similar way M. Binot gives some interesting information respecting the Brazilian Miltonias. The species having yellowish green foliage, as M. spectabilis Moreliana, M. candida and M. flavescens grow at a very high elevation on trees, but the climate is warm though they grow at such an altitude. They are quite healthy and robust, notwithstanding their

sickly appearance—which in fact is natural to them. M. cuneata, on the other hand, grows quite apart from the others, and is the only one which grows in the shade, in valleys between high mountains, and at a lower elevation, but on account of the climate does not require such warm treatment. This is a rather interesting confirmation of the conclusions arrived at four years ago, when out of seven distinct natural hybrids I could not find one from M. cuneata, for both the cases in which it had been suggested as one parent broke down on investigation (*Orch. Rev.*, ix., pp. 289-295). Presumably from the results then arrived at M. Clowesii and M. Regnellii also belong to M. Binot's first group. Of M. Russelliana also no hybrids are known, while M. anceps seems to have been lost sight of for some time. It would be useful to know more about this interesting question.

R. A. ROLFE.

BRASSIA ELEGANTULA.

THIS very distinct little Brassia is flowering freely at Kew, after being practically lost sight of for years. The plant came from Glasnevin two years ago, and I know nothing of its earlier history except that the species was originally described by Reichenbach just twenty years ago (*Gard. Chron.*, 1885, ii.. p. 616). It is said to be of Mexican origin, and was introduced by Mr. F. Sander, with whom it flowered. Shortly afterwards it also flowered with Hermann Wendland, at Herrenhausen, Hanover, enabling the species to be described. The author remarked :—" This small-flowered Brassia has exceedingly stiff, glaucous, cuneate-ligulate, acute leaves, and a glaucous, rather small bulb. Its inflorescence is a raceme of few (two to five) flowers. The bracts are very large, triangular, not equal to the stalked ovaries. The sepals are spreading, the lateral ones deflexed, all green with brown transverse bars. Lip oblong, apiculate, with two longitudinal keels at the base, hairy inside. The colour of the lip is white with a few small brown-purple dots in front of the calli. It is bent in the middle, the keels being formed in the hollow under the stigma. The column is quite wingless, green and brown." Had Reichenbach added that it was a pigmy among Brassias, measuring only about six inches high when in flower, he would have given a very fair idea of the plant, which is a very distinct one, comparable with nothing known to me, though probably most allied to B. chlorops, Endr. & Rchb. f., as the author pointed out. The leaves are about $2\frac{1}{2}$ to 4 inches long by 5 to 6 lines broad, and the flowers measure under an inch across their broadest diameter. It grows and flowers freely, forming a compact little tuft, and it is interesting to find that it does not belong to the large group of " lost species."

R. A. R.

A GROUP OF HYBRID ODONTOGLOSSUMS.

SEVERAL interesting novelties among hybrid Odontoglossums were briefly mentioned in our report of the Temple Show last month, and now we are able to illustrate three which were exhibited by Messrs. Charlesworth and Co., Heaton, Bradford. The flowers were kindly given us by

Fig. 41. ODONTOGLOSSUM × PHŒBE.

Fig. 42. O. × OTHELLO. Fig. 43. O. × FASCINATOR.

Messrs. Charlesworth, and the excellent photograph here reproduced was taken by Mr. E. C. Hart, and represents the flowers about four-fifths natural size.

O. × PHŒBE (fig. 41) is a seedling from O. cirrhosum ♀ and O. crispum ♂, and shows very clearly the characteristic shape, markings, and colour of the former parent, while the influence of O. crispum is seen in the

increased breadth of the segments. The ground colour is pure white, and the markings dark brownish-purple. In some respects it is analagous to the natural hybrid O. × Andersonianum, in which O. cirrhosum is replaced by O. gloriosum, and a considerable amount of variation may be expected when other seedlings flower. Forms with yellow ground may not occur, as both parents are white to start with, but rose-tinted grounds are likely to appear. A considerable variation in the amount of spotting may also be anticipated. It is an interesting addition to the group, and cannot, of course, be matched among wild forms, as the parents do not grow together.

O. × OTHELLO (fig. 42) is a secondary hybrid derived from O. × Adrianæ ♀ and O. Harryanum ♂, and partakes most of the character of the latter parent; indeed, in the absence of the record it would be difficult to say what the other parent was. The fact is there is a very strong family resemblance running through all the O. Harryanum hybrids. A comparison with O. × crispo-Harryanum, however, shows that the novelty has the characters that might have been expected, for it is smaller in size and more yellow in colour, as the result of the O. crispum influence being reduced from half to one-fourth, and replaced by O. Hunnewellianum. Two seedlings were exhibited, one of which had rather more yellow in the ground colour than the other. It is an interesting hybrid, and is probably not yet fully developed. It also need not be expected among natural hybrids.

O. × FASCINATOR (fig 43) is a charming hybrid, derived from O. × Adrianæ ♀ and O. crispum ♂, and bears such a general resemblance to O. × Adrianæ as to have been exhibited under the name of O. × Adrianæ Fascinator. It is, however, a secondary hybrid, and shows more of the O. crispum character than the typical forms of O. × Adrianæ. This hybrid, of course, might occur in a wild state, and the question arises whether certain supposed forms of O. × Adrianæ may not have a similar origin. Indeed, there are two or three reputed forms of O. crispum, having numerous small spots, which we have suspected might have such an origin, but hitherto there has been nothing of known origin with which they could be compared. And in this connection one naturally recalls the remarkable O. × Adrianæ grandiflorum figured at page 185, but in that the shape, colour, and markings of O. Hunnewellianum are so pronounced that, even allowing for possible variation, one can hardly think the two to be of identical origin. That now figured is certainly a very charming flower, and will improve when the plant becomes strong. The ground colour is white, with a strong rosy suffusion, and the spots are red-brown in colour. We shall hope to see more seedlings of this particular origin, as considerable variation may occur, and much light may be thrown

on what takes place in a state of nature, a point which, up to the present, has been largely conjectural. R. A. R.

THE GENUS THUNIA.

THE genus Thunia is in a sad state of confusion in botanical works. Three or four quite distinct kinds are known in cultivation, but in the *Flora of British India* they are regarded as forms of a single species, which is still retained in the genus Phaius, as in the days before Thunia was described and its differences pointed out. One or two other forms have since appeared, and as the species are important garden plants, and some points about their history still obscure, it may be interesting to give a brief review of the genus.

Thunia alba is the original species of the genus, and it can be traced back as far as 1831, when it was figured and described in Wallich's *Plantæ Asiaticæ Rariores* (ii., p. 85, t. 198), under the name of Phaius albus, Lindl. MSS. It was said to grow on trees in the mountains of Nepal and Silhet, flowering in June and July.

Six years later we find it in cultivation, for it was figured in the *Botanical Register* in 1838 (t. 33), from a plant which flowered in the establishment of Messrs. Loddiges, of Hackney, in July, 1837. Its history was then given by Lindley as follows:—"This lovely plant was originally found by Dr. Wallich upon Mount Chandaghiry in Nepal, growing on trees; and subsequently it was sent down from the frontiers of Silhet by Francis de Silva, a collector in the pay of the Botanic Garden, Calcutta. . . . In some respects the plant now figured, and that of Dr. Wallich, are apparently so different that some doubt might be entertained about their identity, if it were not for dried specimens in my collection, which place the question beyond all doubt. There was no sign of the yellow colour, which is so conspicuous a mark of the labellum in the Indian drawing; the pink veins were much deeper, and the flowers were arranged in a dense, imbricated, nodding, many-flowered raceme."

It is probable that the plant came from the Calcutta Botanic Garden, through Dr. Wallich; for when afterwards it was figured in the *Botanical Magazine* (t. 3991) it was stated that to him "our stores are indebted for its introduction." It is the same form as figured by Lindley.

It was again introduced by Gibson, collector to the Duke of Devonshire, in 1837, and flowered at Chatsworth, being figured in *Paxton's Magazine of Botany* (xv., p. 125, with plate). It is said to have been found growing on trees in shady, damp woods on the Khasia Hills at an elevation of 2,000 to 3,500 feet, flowering during the rainy season in the greatest profusion.

It was in 1852 that Reichenbach founded the genus Thunia for the

reception of the plant (*Bot. Zeit.*, x. p. 764), pointing out that its affinity was with Sobralia, Pogonia, Arethusa and others rather than with Phaius. The genus was dedicated to Herr Franz Grafen von Thun, the possessor of one of the largest collectors of Orchids of the period.

All the plants hitherto in cultivation appear to have been alike, but in 1874 one was figured in the *Revue Horticole*, under the name of Thunia alba (p. 450, with plate), agreeing with that originally figured by Wallich, in having the disc yellow, with a few radiating purple veins nearer the margin. The plant is said to have been sent from India about 1871 by M. Jensen, and flowered freely in the houses of the Jardin des Plantes.

In 1868 a second species was described and figured, namely, Thunia Bensoniæ (Hook. f. *Bot. Mag.*, t. 5694). It was discovered at Rangoon, in Burma, by Col. Benson, in 1866, and flowered at Kew and in the establishment of Messrs. James Veitch and Sons, at Chelsea, in July of the following year. It was described as very closely allied to T. alba, except in having larger purple flowers, and was dedicated to Col. Benson's wife, when it was remarked that "few more beautiful plants have ever borne a lady's name."

In August, 1871, a plant was exhibited at one of the R. H. S. meetings by Messrs. B. S. Williams & Son, under the name of Phaius Dodgsoni, and received a First-class Certificate, and seven years later this was figured and described in the *Floral Magazine* (1878, t. 329). In 1881 it was also described by Reichenbach under the name of Thunia pulchra (*Gard. Chron.*, 1881, ii., p. 166), from materials furnished by Mr. Bull. The flowers are smaller than in T. alba, and white, with a bright yellow lip, while the spur is nearly obsolete. The habitat was not given, but it afterwards proved to be Burma, in fact the plant had been discovered in Moulmein as long previously as 1856.

In 1877 Thunia Marshalliana was described (Rchb. f. in *Linnæa*, xli., p. 65). It was said to have been sent from "Moulmayne" to Mr. Bull, and flowered in the gardens of Messrs. Marshall, Day, Veitch, and Oscar Wrigley. In 1882 a figure appeared in *Gartenflora* (xxxi., p. 321, t. 1098), showing the flower to be much larger than in T. alba, and the front lobe of the lip deep yellow veined with orange colour, and the hairs of the crest very strongly developed.

In 1885 a hybrid Thunia appeared, derived from T. Marshalliana ♀ and T. Bensonæ ♂. It was raised first by Mr. Toll, of Manchester. and shortly afterwards by Mr. Seden, in the establishment of Messrs. James Veitch & Sons, in both cases from the same cross. Plants of both progenies were exhibited simultaneously at one of the Royal Botanic Societies Shows, at Regent's Park, in 1885, the former under the name of T. × Wrigleyana, in compliment to Mr. E. G. Wrigley, of Howick House, Preston, and the

latter as T. × Veitchiana, but the hybrid was described by Reichenbach under the latter name (*Gard. Chron.*, 1885, i., p. 818).

In 1888 Thunia candidissima was described, from a plant which flowered in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking (Rchb. f. in *Gard. Chron.*, 1888, ii., p. 34). It is said to have the habit and appearance of T. Marshalliana, but to have no sulphur colour anywhere on the flowers. Whether it is a variety of T. Marshalliana or a distinct species seems uncertain. It was found on an imported Dendrobium Wardianum, and is doubtless of Burmese origin.

In 1891 Thunia Mastersiana was described by Kränzlin (*Gard. Chron.*, 1891, ii., p. 420), as an ally of T. alba, and even more closely allied to T. pulchra. It was said to have been introduced from Moulmein, and flowered with Messrs. Sander, at St. Albans, during July and August. It was dedicated to Dr. M. T. Masters. Unfortunately, on comparison, it proved identical with Thunia pulchra.

In 1894 Thunia Winniana was described and figured (L. Lind. in *Lindenia*, x., t. 452). It is said to have made its appearance in the collection of C. Winn, Esq., Selly Hill, Birmingham, in 1889, and to have been named by the Orchid Committee of the R.H.S. It was purchased at a sale at Stevens' Rooms under the name of Thunia sp. The date given appears to have been a mistake, for it was on June 22nd, 1891, that it was exhibited, and it received an Award of Merit under the name of T. Bensoniæ var. Winniana. It was described as a superior form, with a larger flower, broader lip, and deeper colour than the type (*Journ. Hort.*, 1891, i., p. 516). It is also rather more robust, but apparently not specifically distinct.

Thunia Brymeriana was also described in 1894, from plants which flowered with Messrs. F. Sander and Co., in June, 1892 (Rolfe in *Kew Bull.*, 1894, p. 156). It was described as an ally of T. Marshalliana, having rather smaller flowers, and the front part of the lip beautifully variegated with radiating crimson-purple veins. It was afterwards figured in *Reichenbachia* (ser. 2, ii., p. 83, t. 82), when it was stated that the plant was received from W. E. Brymer, Esq., Ilsington House, Dorchester. It is a native of Burma.

Thus we find that eight different Thunias have been described, and of these at least four are quite distinct, while a revision of the materials at hand necessitates the recognition of one additional one, which up to the present has been completely confused with the original species of the genus.

Thunia alba, as previously pointed out, was primarily based upon Phaius albus, Lindl., which in turn was partly based upon Limodorum bracteatum, *Roxb. Fl. Ind.*, iii., p. 466. Of the latter Dr. Prain states that no drawing exists at Calcutta, but from the locality, the Garrow Hills, it is evidently identical with the Phaius albus figured by Wallich. The T. alba of the

Revue Horticole, and the plant figured in the *Orchids of the Sikkim Himalaya* (t. 153) are the same. It is a plant having a somewhat elongated raceme, a yellow disc to the lip, and a few lilac radiating veins on the side lobes. Probably the Phaius albus, N. E. Br. (*Gard. Chron.*, 1883, ii., p. 334) represents the same plant. It is not common in cultivation.

The Thunia alba of the *Botanical Register*, the *Botanical Magazine*, and *Paxton's Magazine of Botany* has a shorter sessile inflorescence, smaller flowers, and no yellow on the disc of the lip, while the radiating veins are lilac-purple in colour. It is a widely diffused plant, being found in Kumaon, Sikkim, Khasia, Assam, in the Karen Hills north of Toungo, and in Southern Chota Nagpur, in Bombay. Dr. Prain states that a Jesuit Father, who is a very careful and reliable observer, and has a good knowledge of Orchids, reports also finding the rose-purple T. Bensoniæ in the latter locality, but has failed to find the Sikkim form with the yellow disc to the lip, though he has been searching for it for several years. King and Pantling remark that in Sikkim there is a form smaller in all its parts than the type, with shorter congested racemes, which does not ascend above 3,000 feet elevation (*Ann. R. B. G. Calc.*, viii., p. 111). This apparently agrees with the form now under consideration, which usually seems to occur at moderate elevations. It is clearly distinct, and may bear the name of T. VENOSA.

T. MARSHALLIANA, as previously pointed out, has a larger flower than T. alba, and the crests of the lip are very strongly developed. Its area has now been considerably extended by its discovery in Yunnan, by Dr. A. Henry, at Szemao from 4,500 to 6,000 feet elevation, and at 5,000 feet at Mengtze. Parish gave its habitat at 5,300 feet elevation in Burma. He also remarked that T. Bensoniæ grew at the same elevation, and though generally dwarfer than T. Marshalliana he then took the two for forms of the same species.

Several so-called varieties of T. Marshalliana have been described, differing from the type in having more or less bright purple veining on the lip; as ionophlebia (Rchb. f. in *Gard. Chron.*, 1885, ii., p. 70), purpurata and triloba (*l.c.*, 1888, ii., p. 62). T. Brymeriana may also be said to have the same character, and after a comparison with the artificially raised T. × Veitchiana I believe the others to be natural hybrids of the same parentage, for we have Parish's testimony that the two species grow together, and the resemblance between the wild and artificially raised plants is very close. T. Brymeriana has always been a puzzling plant, but this puts its affinity in quite a new light. The varieties oi T. Marshalliana mentioned seem to have been lost sight of.

Lastly Thunia pulchra, which differs from all the others in having the spur nearly obsolete, was specially recorded by Parish as growing in the plains of Burma.

Now that the confusion between the different species has been to some

extent cleared up, it may be possible to ascertain more nearly their geographical areas, which was hopeless while they were all aggregated together as forms of one.

R. A. ROLFE.

PAPHIOPEDILUM FAIRRIEANUM.

SINCE the promise to give full particulars as to the conditions under which this plant was found growing, elevation, surrounding vegetation, &c. (see p. 138 of our May issue), we have scanned the pages of *Indian Gardening* week by week in the hope of finding the desired information, but hitherto without result. The issue for May 20th, however, contains the following letter (p. 339) :—

"THE LOST ORCHID.—In your issue of March 25th last you stated that the lost Orchid, Cypripedium Fairrieanum, had been re-discovered, that there was no doubt of its identity, as it had been certified to by Dr. Prain.

This is not correct, as neither Col. Prain nor any other expert has certified to the identity of the plant.

VERITAS."

The Editor replies (p. 338) :—" We were indebted for our information to Mr. S. P. Chatterjee, who tells us now that he ought to have said "the authorities of the Royal Botanic Gardens, Calcutta, and not "Dr. Prain" by name. But no one knows better than "VERITAS" himself as to whether the true plant has been discovered or not, as he could possibly tell us who sent the specimens to Kew, where they have been definitely determined as the 'lost orchid'—according to the *Gardeners' Chronicle*; and 'VERITAS' ought to be happy, we think!"

And now this little matter being settled we must beg the Editor to give us that promised and much desired information, before the plants arrive in Europe. When that event takes place people will want to know how to treat it. We don't ask for the habitat—that can wait—but we do want to know something about the altitude, climate, soil, situation, surrounding vegetation, &c., so that when the plant does arrive Orchidists may be able to treat it in such a way that success will be assured. And this is a matter of some importance to the discoverers (who presumably are in possession of some of these facts), for Orchidists are not likely to become purchasers while they entertain the idea that the plant cannot be grown. *Verbum sap.* We may add that the Kew plants are thriving—we have already given the reasons for believing them to be authentic,—and we shall not be at all surprised if history repeats itself during the coming autumn.

PAPHIOPEDILUM GLAUCOPHYLLUM.

WE are now able to give a figure of the distinct and remarkable Paphiopedilum glaucophyllum, J. J. Smith, whose history was given at p. 29. A plant was exhibited at the recent Temple Show by E. Roberts, Esq., Park Lodge, Eltham, and our figure is re-produced from a photograph, by Mr. E. C. Hart, of the only flower then expanded. The species is a native of Java, and was originally described about five years ago, soon after its discovery. M. Rimestad subsequently met with it, and sent plants to Europe, one of which flowered in the collection of M. Lambeau, of Brussels, in October, 1904, and was exhibited for the first time at the

Fig. 44. PAPHIOPEDILUM GLAUCOPHYLLUM.

Düsseldorf Exhibition (see *O.R.*, xii., p. 331). It is an ally of the Sumatran P. Chamberlainianum, but differs in various particulars. The leaves are broader and distinctly glaucous, with scarcely a trace of the mottling seen in the older species, and the petals are very distinctly hairy, as shown in the figure, besides being quite different in colour. The flowers are borne in racemes on a gradually elongating scape, as in P. Chamberlainianum and P. Victoria-Mariæ. The dorsal sepal is light green, somewhat veined and suffused with dusky brown in the lower half, and the margin cream-yellow,

while the petals are cream-white, with reddish purple markings. The lip is clear light purple, with an obscure trace of darker spotting, and a cream-yellow margin and side lobes, with a few light brown spots on the latter. The staminode is ovate, and dusky brown with a light green base. It is an interesting addition to the group.

PAPHIOPEDILUM CHAMBERLAINIANUM.

IT may be interesting to repeat the figure of P. Chamberlainianum, for comparison with the preceding, as the two species are so much alike in habit. The leaves are rather narrow and mottled with a shade of olive-green. The dorsal sepal is light green, lined with dark brown, and the

Fig. 45. PAPHIOPEDILUM CHAMBERLAINIANUM.

twisted and undulated petals light green, blotched with brown. The lip is light purple, with numerous dots of a darker shade, and the staminode dull green with a darker centre. The species is a native of Sumatra, and was introduced to cultivation by Messrs. F. Sander & Co. in 1892. The original record of New Guinea is erroneous. The figure represents a plant in the collection of J. T. Bennett-Poe, Esq., Holmewood, Waltham Cross, bearing three spikes, one of which has three flowers expanded at the same time. As many as four flowers are occasionally seen open together. Though a comparatively recent introduction the species has been much used for hybridising, and several interesting hybrids from it have now flowered.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of the R.H.S. was held at the Royal Horticultural Hall, Vincent Square, Westminster, on June 20th last, when there was a very fine display of Orchids, including one very remarkable generic cross from M. A. de Lairesse, of Liége, which is described and figured at page 217. The Awards included two First-class Certificates, four Awards of Merit, four Botanical Certificates, two Cultural Commendations, and seven Medals.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a very interesting and varied group, to which a Silver-gilt Flora Medal was awarded. It contained some good plants of Thunia Marshalliana and T. × Veitchiana, the bright yellow Lælia tenebrosa Walton Grange var., a fine example of Dendrobium Jerdonianum, D. atroviolaceum, the richly-coloured Lælio-cattleya × Adolphus, Aërides Lobbii, and a pale form of A. Houlletianum, Bifrenaria vitellina, Promenæa xanthina, Polystachya zambesiaca, Ornithocephalus grandiflorus, Aëranthes arachnites and dentiens, Physosiphon Loddigesii, a well-flowered Cryptophoranthus Dayanus, Odontoglossum crispum, numerous Masdevallias, including some good forms of M. coccinea, with the interesting hybrids × Jessie Winn, × glaphyrantha, × Curlei, × Acis, × ferrierensis, × Rushtoni, and × Doris, Bulbophyllums Lobbii and Dearei, the handsome Epidendrum osmanthum, E. umbellatum, E. Linkianum, and E. ochraceum. Awards of Merit were given to Epidendrum × radico-vitellinum and Epilælia × vitell-brosa, and Botanical Certificates to Bulbophyllum radiatum, Cirrhopetalum guttulatum, Epidendrum pterocarpum, and Brassavola Perrinii. The latter was a fine specimen and very profusely flowered, and a Cultural Commendation was given to Mr. White for it.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), received a Silver Flora Medal, for an interesting and beautiful group. We noted a fine specimen of Platyclinis filiformis with about two dozen of its graceful racemes of yellow flowers, good forms of Cattleya Mendelii, Mossiæ and Warscewiczii, Lælio-cattleya × Martinetii ochracea, a good Odontoglossum × Wilckeanum and others, the rare Trigonidium spathulatum, Cypripedium callosum Sanderæ, C. × Bryan, Oncidium leucochilum, the rare little Jamaican O. triquetrum, and a plant of the charming little Hemipilia cordifolia, having the solitary leaf marbled with green and brown, the lip deep purple and the rest of the flower paler. It was imported with Cypripedium bellatulum. An Award of Merit was given to Cattleya Mendelii Pittiæ, a good form having nearly white sepals and petals, and some rose-coloured markings on the front lobe of the lip.

Mr. Ernest Hills, Redleaf Gardens, Penshurst, staged a beautiful group of about two dozen well-grown and flowered plants of Miltonia vexillaria, to which a Silver Banksian Medal was awarded.

Captain G. L. Holford, C.I.E., Westonbirt, Tetbury (gr. Mr. Alexander), obtained an Award of Merit for Sophrolælia × læta Orpetiana (Sophronitis grandiflora ♀ × Lælia Dayana ♂), a beautiful hybrid having majenta purple flowers with some yellow in the throat of the lip. Three plants were shown bearing an aggregate of half-a-dozen flowers.

Sir John Edwards-Moss, Bart., Thamesfield, Henley-on-Thames (gr. Mr. Luckhurst), received a Cultural Commendation for a fine specimen of Lycaste Deppei, bearing about three dozen flowers.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent a few choice things, including Cattleya Mossiæ Miss Ethel Harting, and what appears to be a rather distinct form of Cypripedium concolor. Lælio-cattleya × Mrs. Reginald Brade (C. Schrœderæ × L.-c. × Aphrodite) is a handsome hybrid having white sepals and petals, the throat of the lip yellow, and the front lobe very rich purple. The scape bore three flowers.

W. A. Bilney, Esq., Fir Grange, Weybridge (gr. Mr. Whitlock), sent Dendrobium Dalhousianum Fir Grange var., having very light yellow sepals and petals, and the usual dark blotches at the base of the lip.

R. Briggs-Bury, Esq., Bank House, Accrington (gr. Mr. Wilkinson), sent the charming albino Cypripedium Lawrenceanum Hyeanum.

M. A. de Lairesse, Avenue de Cointe, Schlessin-les-Liége, Belgium, sent a remarkable hybrid, called Odontonia × Lairesseæ, derived from Odonto-glossum crispum ♀ and Miltonia Warscewiczii ♂, to which an Award of Merit was given. It was a strong plant, with an inflorescence nearly 2½ feet long, and bearing seventeen handsome flowers most resembling those of the pollen parent. It is described and figured on page 217.

Messrs. James Veitch & Sons, Chelsea, received a First-class Certificate for Lælio-cattleya × King of Spain, a very handsome hybrid of unrecorded parentage, being in fact a stray seedling whose parentage has not been recognised, though its characters are suggestive of Brassocattleya × Digbyano-Mossiæ and some Cattleya of the labiata group, or possibly a Lælio-cattleya. The flower is large and excellent in shape, the sepals and petals lilac-rose, and the lip large and open, beautifully undulate, and rich purple-crimson with a yellow throat.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a very handsome group, which gained a Silver-gilt Flora Medal. It contained a lot of hand-some Lælio-cattleyas, including good forms of × Canhamiana, × Fascinator, × Hippolyta, × G. S. Ball and others, some home-raised Odontoglossum × excellens, O. crispum and others, Brasso-cattleya × gigas-Digbyana, and numerous other showy species and hybrids. Lælio-

cattleya × Vinesiæ var. Rudolphii (L. tenebrosa × L.-c. × Phœbe) is a handsome form having rich bronzy sepals and petals and a very dark purple lip.

Messrs. Sander & Sons, St. Albans, also received a Silver-gilt Flora Medal for a very fine group, in which we noted some fine Lælio-cattleya × Canhamiana, × Martinetii and others, a hybrid between L.-c. × elegans and Cattleya granulosa, most like the latter in shape, a very fine Miltonia vexillaria, Bifrenaria Harrisoniæ chlorantha, having yellow-green flowers, Anguloa Clowesii, the rare Dendrobium cruentum, D. superbum, Trichopilia coccinea, some good Odontoglossum crispum, Masdevallia severa, two good Cypripedium bellatulum, the rare Vanda Parishii, Pescatorea cerina, Cœlogne speciosa and var. alba, Aërides falcatum, &c.

Messrs. Hugh Low & Co., Bush Hill Park, staged an effective group of good things, which gained a Silver Flora Medal. It contained some good Cattleya Mossiæ, Lælia purpurata, L. cinnabarina, Lælio-cattleya × Aphrodite, L.-c. × Martinetii, Vanda teres, Epidendrum vitellinum majus, E. fuscatum, E. prismatocarpum, E. Brassavolæ, the handsome Cœlogyne pandurata, Dendrobium Dearei, Cypripedium callosum Sanderæ, and others.

Messrs. Stanley & Co., Southgate, also received a Silver Flora Medal for a good group, including some good Oncidium Gardneri, O. Papilio, O. leucochilum, some good O. crispum, O. citrosmum, O. Uroskinneri, Cypripedium × Deedmanianum, Lycaste Deppei, Cattleya × intricata, a pretty natural hybrid between C. Leopoldi and C. intermedia, some good C. Mossiæ, &c.

YORKSHIRE GALA.

THE display of Orchids at the above meeting, which was held in the Boothan Field, York, on June 21st to 23rd, was an excellent one, and produced a good competition.

For a table of Orchids arranged for effect, the first prize was won by Messrs. James Cypher & Sons, of Cheltenham, with a brilliant group, in which Miltonia vexillaria, Thunia Bensonæ, Oncidium varicosum, Cymbidium Lowianum, Brassavola Digbyana, some good Cattleya Mossiæ, Phalænopsis amabilis Rimestadiana, and the beautiful Odontoglossum crispum, with a few others, were combined. Mr. John Robson, Altrincham, was second with another very fine group.

Mr. Cypher was also first for ten distinct Orchids in bloom, his best plants being Miltonia vexillaria with about seventy flowers, Epidendrum prismatocarpum with thirteen spikes, Lælio-cattleya × Martinetii, Lælia tenebrosa, a fine Cypripedium Curtisii, and Cattleya Lawrenceana. W. B. Burkinshaw, Esq., Hessle (gr. Mr. Barker), was second, with good forms of

Cattleya Mendelii, C. Mossiæ with sixteen flowers, C. M. Wageneri with six, a very fine C. Warscewiczii, Lælio-cattleya × Eudora alba, a fine clump of Cypripedium × Euryale with about two dozen flowers, &c.

In the class for six the positions were reversed, Mr. Burkinshaw being first, his best plants being Cattleya Mossiæ Reineckeana, C. M. Wageneri, Lælio-cattleya × Amelia, and Miltonia vexillaria. Mr. Cypher was second, but in both this and the preceding class the competition was very close.

For three Orchids in bloom, and also in another class for three new or rare specimen Orchids, Mr. Burkinshaw was again first, his Lælio-cattleya × Martinetii nobilior in the latter being of exceptionally rich colour, and the plant was awarded a First-class Certificate. Mr. Burkinshaw also exhibited a very fine example of L.-c. × Rœblingiana.

There was also a competition for the best single specimen Orchid, the first prize going to a beautiful example of Oncidium sphacelatum, and the second to Dendrobium thyrsiflorum with thirteen spikes, part of them not yet expanded.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a very fine group not for competition, which was awarded a Silver Flora Medal. It consisted largely of brilliant forms of Cattleya and Lælio-cattleya, with some good Miltonia vexillaria, M. Roezlii alba, Trichopilia Galeottiana, Cypripedium niveum, &c.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on June 22nd, when the display of Orchids showed the commencement of the falling off which is incidental to the summer season, though a few fine things were staged. A single Award of Merit was issued, with two Bronze Medals for groups.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), sent a good group of plants, to which a Bronze Medal was awarded, conspicuous among them being a beautiful specimen of Cochlioda Nœtzliana, which is one of the most effective of Orchids when well grown. An Award of Merit was given to Odontoglossum × lapidense (O. Hallii × Rolfeæ), a very promising novelty.

Philip Smith, Esq., Sale (gr. Mr. Kitchen), also received a Bronze Medal for a good group, the more noteworthy subjects being a fine example of the handsome Lælio-cattleya × Martinetii, a good form of Cypripedium Chamberlainianum, and C. × Annie Measures.

Votes of Thanks were accorded to Father Crombleholme, Clayton-le-Moors, Messrs. A. J. Keeling & Sons, Bradford, and Mr. John Robson, Altrincham, for interesting groups.

ORCHIDS IN SEASON.

THE variability of Lælia purpurata is well known and remarkable, and the point is illustrated by a series of nine flowers, all from different plants, sent from the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell, by Mr. Smith. They range from pure white to lilac in the sepals and petals, and there is also much variation in the depth of purple on the front half of the lip, the amount of white at the apex, and the colour of the throat, which varies from white to light yellow. They are very beautiful, but, of course, do not represent the full range of variation seen in this species, as there are forms in which the sepals and petals are quite purple, and others, of the Russelliana set, in which the colour of the lip is reduced to lilac, with darker veining; also a nearly pure albino, in which the colour is only represented by a trace of purple veining in the throat. The darker forms are, however, comparatively rare. Mr. Smith remarks that they have had a show of about two hundred flowers. Lælia tenebrosa is just beginning to bloom, and a good typical form of this is also sent, together with a fine flower of Cattleya Mendelii. Miltonia vexillaria is also said to be making a fine display, about a thousand blooms being now opening.

After the preceding note was in type came a series of six handsome forms of Lælia tenebrosa from the same collection, these also showing considerable variation. The sepals and petals vary from coppery brown to deep bronzy brown, and the lip from lilac to rose, with purple radiating veins, and deep blackish purple blotches in the throat—in the darkest form these being quite black. It is a very handsome Lælia. L. × Pacavia, the very handsome hybrid between the preceding and L. purpurata, is also represented by two fine forms, of different shades of light rose in the sepals and petals, and the lip deep rose-colour, inclining to crimson in the throat. A fine form of Lælio-cattleya × Wiganiæ (L.-c. × Gottoiana × C. Mossiæ) is much like the latter in colour. There is also a very pretty form of L.-c. × Vinesiæ (L. tenebrosa × L.-c. × Hippolyta), having almost salmon-red sepals and petals, and the lip very undulate, rosy lilac in front, veined with crimson-purple in front and the throat of the latter colour. Cattleya is represented by two good forms of C. Mossiæ, a beautiful light form of C. Warscewiczii, and a good C. Mendelii. Miltonia vexillaria, Cambridge Lodge var., a small light pink form having a purple line at the base of each sepal, and three similar lines in the petals with a trace of yellow, like the markings on the lip. Lastly may be mentioned a good flower of Oncidium macranthum, a curious small form of Odontoglossum luteopurpureum, together with flowers of Masdevallia Carderi and Vespertilio, Maxillaria ochroleuca and

the remarkable Pleurothallis ornata, in which the sepals are fringed with mobile club-shaped appendages.

Several very interesting Orchids are sent from the collection of J. J. Neale, Esq., of Penarth, by Mr. Haddon. A twin-flowered scape of the remarkable Masdevallia xipheres, with both the flowers open together, recalls the well-known M. muscosa, but has darker-coloured flowers. The plant is bearing twenty flowers, and the moss-covered peduncle gives it a novel appearance. The action of its sensitive lip has already been pointed out. Other Masdevallias include the rare M. civilis, M. caudata, and the rich crimson form of M. coccinea known as Bull's Blood. Pleurothallis Grobyi and Maxillaria tenuifolia are two interesting plants, and among better known things may be mentioned Lycaste Deppei, the graceful Brassia verrucosa, and the rare Epidendrum Ruckeræ, a native of Central America.

FANCY PRICES FOR ORCHIDS.

THE sale rooms of Messrs. Protheroe and Morris, 67 and 68, Cheapside, yesterday formed a sort of Mecca for the Orchid growers of the country The Temple Show, of course, had its attractions for them, but the opportunity afforded them by the firm named of securing bargains in choice specimens of their favourite flower was too tempting for them to resist. Over a hundred very rare assortments were put up for sale, and for many of these fancy prices were realized. The following were some of the sales: An Odontoglossum crispum Cooksonianum realized 60 guineas; an Odontoglossum crispum Mundyanum, 230 guineas; an Odontoglossum crispum Princess Helena, 190 guineas; an Odontoglossum crispum Franz Masereel, 200 guineas: an Odontoglossum crispum Queen Victoria, 100 guineas; an Odontoglossum vardentissimum Queen Alexandra, 160 guineas; an Odontoglossum crispum Lindeni, 190 guineas; and an Odontoglossum crispum Imperatrix Reginæ, 130 guineas. The price paid for a specimen of the Odontoglossum crispum Roger Sander (875 guineas) was the highest ever obtained at an auction sale.—*Daily News.*

DIDYMOPLEXIS PALLENS.

WHEN I gave the history of this remarkable Orchid two years ago (*O. R.*, xi., p. 227) I did not expect to see it again in flower, for saprophytic Orchids are notoriously difficult to cultivate, but the self-same plant is again producing seven scapes, and the remarkable thing is that it is both leafless and deficient in the usual green colouring matter. How its slender subterranean rhizomes have managed to keep alive I do not know, but two years later

they are not only alive but also flowering. It is said to be usually found under clumps of bamboo, and has been described as parasitic on their roots, but the latter is most unlikely, for the present plant has no access to bamboo roots, or indeed to those of any other plant, being grown in a pan by itself, in what, so far as I can make out, seems to be chiefly a compost of broken oak leaves, chopped sphagnum, and a little fibre. A note in *Indian Gardening* last year, speaking of the record of its always growing under the shade of bamboo trees, and living on the decaying vegetable matter found beneath them, remarked:—"We saw a specimen recently growing luxuriantly under the shade of a banyan tree (Ficus bengalensis), there being no bamboo trees within sight (see *O. R.*, xii., p. 351), but the preceding observation suggests that the plant is not particularly fastidious in its tastes. A sufficiency of humus with the requisite amount of heat, moisture and shade seem to meet its requirements. Ridley records it as growing usually in dry woods. The conditions under which this and allied saprophytes are found are somewhat peculiar. Ridley states that "they appear generally when hot and dry weather follows heavy rains, and this applies not only to such Orchids as Lecanorchis and Didymoplexis, but also to saprophytes of other orders, so that when one or other of these is found the others may be expected to be in flower as well; but merely clearing a track through the jungle will often cause these plants to appear in a few weeks, whatever the weather." This is probably due to the access of light and heat, and these curious plants can only be detected when producing their inflorescence and seed. R. A. ROLFE.

THE HYBRIDIST.

PAPHIOPEDILUM × VANESSA.—This is a fine hybrid, raised in the collection of Mrs. Ross, of Florence, from Paphiopedilum præstans and P. villosum, of which a leaf and flower have been sent. The plant is said to be four years old, and has produced a spike 35 centimetres long, with three flowers. It is a robust grower, as the leaf sent is over eight inches long by one and a half broad, and the colour light green, with the reticulated nerves slightly darker. There is a good deal of the characteristic præstans shape about the flower. The dorsal sepal is ovate, acuminate, $2\frac{3}{4}$ inches long by $1\frac{1}{2}$ inches broad, and cream yellow with thirteen dark-brown lines, made up of more or less confluent spots. The drooping petals are $3\frac{1}{2}$ inches long and spirally twisted, the basal fourth being spotted with dark brown on a cream-yellow ground, and the rest more or less lined and suffused with brown. The lip is $2\frac{1}{4}$ inches long, spotted and marbled with brown in front, and the broad convex staminode is covered with dark brown hairs at the sides. Hybrids of P. præstans are rather rare at present.

ODONTONIA × LAIRESSEÆ.

WHEN sending the remarkable Odontoglossum × Lairessei, figured and described at page 81, M. A. de Lairesse told us of another hybrid which was on the point of flowering, derived from Odontoglossum crispum ♀ and Miltonia Warscewiczii ♂, for which we suggested the name of Odontonia × Lairesseæ as suitable. The plant was exhibited at the R.H.S. meeting, on June 20th, and received an Award of Merit from the Orchid Committee. The annexed figure represents one of the flowers, and is reproduced, natural size, from a photograph taken by Mr. E. C. Hart. It will be seen that the hybrid most resembles the pollen parent—in fact, we heard it called a glorified Miltonia Warscewiczii—but the influence of the Odontoglossum is

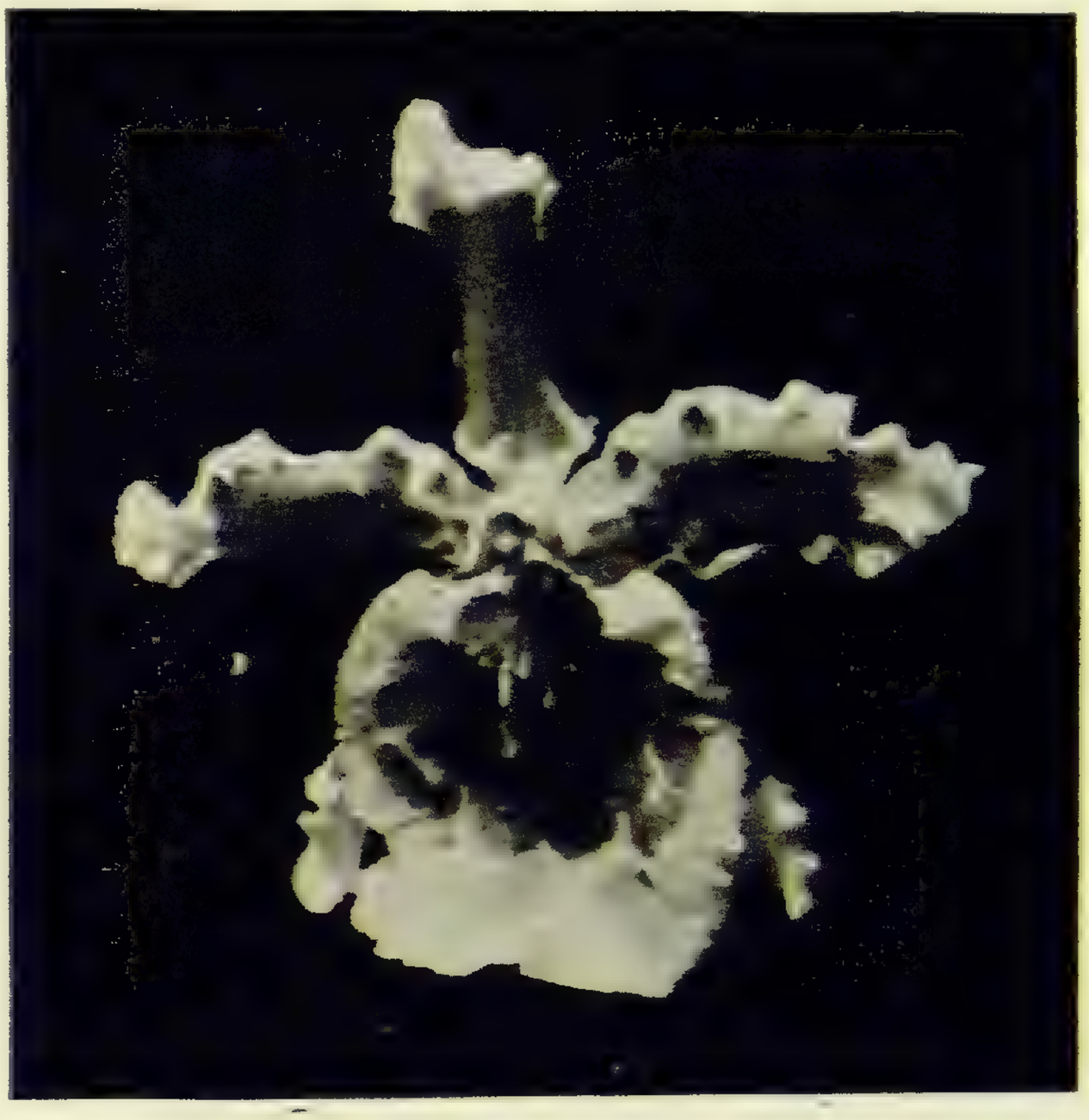

Fig. 47. ODONTONIA × LAIRESSEÆ.

distinctly traceable. The plant was very vigorous, and most like the Miltonia in habit. It bore two oblong, compressed pseudobulbs, the larger about 4 inches long by 1½ inches broad, and the other about half as large. These bore a pair of broad leaves, the largest of which was about 15 inches long by 2¼ inches broad. The scape was stout, about 28 inches long, with five short side branches, and an aggregate of seventeen flowers, two others having gone off. The flower measures 2½ inches from tip to tip of the petals, and both the shape and the undulate segments recall those of the Miltonia parent, the chief modification being in colour and the somewhat larger size. The colour of the blotches may be described as light reddish purple, but there is more white in the ground colour than in

the Miltonia, and the blotches on the lip are somewhat broken up and arranged as in the Odontoglossum parent, while the crest is variegated with yellow and light brown. The column is about twice as long as in the Miltonia, and the wings rather larger and more denticulate. We could not get a flower of the Miltonia to include in the photograph, or the differences would have been more apparent. It is a handsome hybrid, but more like the pollen parent than would have been expected. It would be interesting to try the effect of a second cross with the Odontoglossum.

CALENDAR OF OPERATIONS FOR JULY.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THE temperatures and general treatment in all departments should be continued as previously advised. The season up to the present has been a particularly hot, dry, and fast one. If, therefore, growers find themselves behindhand with their potting operations, small blame to them. Weather like we are now having, although it may be known only to those directly concerned, causes an enormous amount of extra work; and by the time the watering, damping down, airing, shading, cleaning, and the hundred and one other little jobs are done which are found necessary in order to keep the temperature and atmosphere constantly well balanced, and suitable for healthy growth, a great inroad has been made upon their time and energies. But little re-potting should now remain to be done, and certainly this month should see the most of it completed, with the exception, perhaps, of an isolated plant or two, such as the latest of the Cattleya Warscewiczii (gigas), Lælia crispa, and similar late-flowering kinds. Cattleya Mendelii and C. Mossiæ will now have passed out of bloom, and, if not already re-potted, should be taken in hand at once, and done carefully in the same way and in similar compost to that recommended for other Cattleyas, and given every encouragement to produce strong healthy growth.

The inmates of the East Indian house are now growing apace, and must not lack moisture. The deciduous Calanthes are getting well rooted, and may receive more water, as they are thirsty subjects when in full growth. Phalænopses are pushing up good leaves, and making plenty of young roots. Dendrobiums, too, are growing well, and when the new growths are well up, and have a good number of new roots, it is a good plan to use the syringe well among them two or three times daily, when the days are bright and hot, rather than to keep the compost too soddened with water. The plants like it, and it is one of the best means of keeping down red spider, which must not on any account be allowed to prosper. If the house is as well and freely ventilated during such splendid summer weather as we are now getting—and it ought to be done—the casualties of the new growths

damping off will be very few with the majority of species. But with D. Bensoniæ and D. superbum one has to be very careful when syringing, not to let the water get down into the axils, for they are much given to damping off. I find it is best for this department to always keep, if possible, a slight warmth in the pipes during the night, so that air both top and bottom can be left on all through the night. We cannot succeed well with Orchids without air; it is their best stimulant. To shut the Dendrobiums up in a close house, so as to keep the temperature warm the whole night, in order to spare lighting the fire, is a source of danger, and many growths invariably damp off.

Cattleyas Warneri and C. Warscewiczii are now commencing to flower, after which new roots will commence to push from the base of the new pseudobulb, and this is the best time to re-pot them. Do not expose them too much to the sun for a few weeks afterwards, nor keep them too dry; but they should be placed in a department where they receive plenty of air, and are kept pretty cool, or they will start to make second growth, which is always well to avoid, if possible. In spite of one's utmost endeavours, a few of them are almost sure to break again, which cannot be helped, and which need cause no alarm. Give such plants exactly similar treatment to those quite dormant, ignoring the second growth, and the matured pseudobulb will flower like the rest. When an Orchid, say a Cattleya or a Dendrobium, or anything else, has completed its growth, it is a great and ofttimes a fatal mistake to withhold water too suddenly. The plants very quickly shrivel up, causing immature growths and other evils. The watering of the roots must go on as usual for some time, but the plants should be removed to a place where they may receive more air and light. Give air both night and day to assist in preventing second growth, and to thoroughly ripen the pseudobulbs, but do not withhold water at the same time, or the strain is too great. The other Cattleyas and Lælias will now be actively growing, and should be well attended to, spraying them overhead occasionally, especially early in the afternoon, when the shading is removed, and the ventilation is reduced. The houses should be damped down at least three times daily, and air admitted freely. The Cool house must needs be heavily shaded to keep the temperature down. The ventilators should be opened as widely as possible, and remain so. With this air it is impossible to damp the surroundings too often, and this treatment the plants enjoy.

Lælia præstans and L. Dayana are now starting to grow, and may have attention if they need re-potting. They are best grown in pans, suspended, and should occupy a warm position at the warmest end of the house. They delight in a good long rest during the winter. Lælia harpophylla is another that does well in this department, if given a similar position, as also does

L. monophylla, which is a quaint and pretty little Orchid. This latter species prefers to be kept moist the whole year round, and should be grown in very small pans or baskets.

Oncidium tigrinum is now pushing up new growths, and may be re-potted. I prefer to grow this beautiful Orchid in pots under the same treatment as the Odontoglossum crispums enjoy. Like many other cool Orchids, it is often injured by being kept too wet at the roots. Orchids do not require to be kept so wet as is sometimes supposed; it rots the compost and kills the roots; and what follows it is needless to say. When water is applied with moderation during the time the plants are growing, and they are kept on the dry side when inactive, re-potting in many instances is really not necessary more than once in two or three years with these cool and intermediate species, and they are better if not pulled about for the purpose of re-potting too often.

Sobralias may be re-potted, if necessary, as soon as the flowering season is past. Good turfy, strong loam, mixed with broken charcoal and sand, suits them admirably. They should be potted firmly, and when strongly established, they are of most easy growth, and give but little trouble. They make a large quantity of thick, fleshy roots, and must, therefore, have pots or pans of a reasonable size to contain them. When re-potting, it is not advisable to disturb the old ball of roots more than is really necessary, for if pulled about very much a great check is given. Sobralias delight in Intermediate or Cattleya house temperature, and in a moderate supply of water the whole year round, as they have no special resting period.

I have on several occasions pointed out the great advisability of keeping the plants absolutely free from injurious insect pests, and the simplicity with which, nowadays, this may be accomplished. The recent hot spell of sunshine has been favourable to the increase of thrips, spider and aphis, and if present at all I should advise an immediate fumigation with XL All Insecticide, which, with the help of a little tobacco powder in the difficult places, as in the axils of the leaves of Cypripediums—which turn quite rusty brown if thrip exists there—will speedily have the desired effect. Cockroaches must also be kept down. Chase's Beetle Poison is an excellent and most effective remedy, and Beetlecute is another effective means of keeping these pests in check. They are most troublesome in the Warm department.

Seedling Orchids will now be growing rapidly, and should receive every encouragement to make good growth before the winter sets in. They should be pricked off or potted on, as circumstances require. Germinating seeds should also receive constant attention, especially in the way of moisture, for drought and bright sunshine are fatal to them at this early stage.

ODONTOGLOSSUM × ANDERSONIANUM.

ABOUT two months ago we received a series of fourteen forms of Odontoglossum × Andersonianum from the collection of W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), to show its remarkable variability. From these we selected a flower from twelve of the most distinct,

FIG. 48. ODONTOGLOSSUM × ANDERSONIANUM VARIETIES.

and asked Mr. C. P. Raffill to photograph them, with the result shown here, the flowers being considerably reduced to get them within the limits of our page. Had it been possible to illustrate them in their natural colours and full size the effect would have been still more striking, but even now it

supplies a very graphic record of the amount of variation seen in one collection at the same time. The flowers in the upper row have a white ground colour, the centre one being the pure white O. × Andersonianum virginale, while those to left and right of it vary greatly in the size and arrangement of the spots. The second row contains forms having a whitish ground, more or less suffused with rose, chiefly on the sepals, and thus approximate to the variety Ruckerianum. Here there is an even greater difference in the size, number and arrangement of the spots. The third row contains light yellow forms, approximating to the variety hebraicum, and the bottom row contains yellow forms in which there is also a strong suffusion of rose, especially in the sepals, as in the variety baphicanthum. The differences in the amount of spotting may be left to explain themselves. It is certainly a very interesting and instructive group, and illustrates the result of crossing the rather small, light yellow, densely spotted Odontoglossem gloriosum with the well-known O. crispum, having a white ground, more or less suffused with rose on the sepals, and sometimes spotted.

The history of this polymorphic natural hybrid was given in the first volume of this work (pp. 170-174), and could we have selected twelve of the most distinct from the whole page of varieties there enumerated the result would have been still more remarkable. A considerable number have been figured, and may be consulted by means of the references just mentioned. The three which have appeared in this work may be enumerated, namely, var. superbum and Hazelbourne var., *O. R.*, ii., p. 305, and Bogaerdeanum, *O. R.*, v., p. 305. The second of these is remarkable for the Harlequin-like arrangement of the blotches, and the third for the breadth of the segments and size of the blotches. We should like to see the amount of variation which could be obtained from a single seed-pod, when someone can be induced to make the cross. R. A. R.

PROMENÆA × CRAWSHAYANA.

AT the R.H.S. meeting held on May 23rd last an Award of Merit was given to Zygopetalum × Crawshayanum (xanthinum × stapelioides), from the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks. Its history has thus been recorded :—"One specially interesting plant in the seedling house is a seedling of Promenæa stapelioides ♀ × P. xanthina ♂, which we suspect will prove the parentage of a natural hybrid. The seed was sown in February, 1902, in the warm house, but none came up there, this one seedling being afterwards found in the cool house, in the crown of an Adiantum, where it must have blown." A flower sent by Mr. Crawshay measures 2¼ inches in diameter, and the ground colour is cream yellow,

the sepals slightly spotted with red-brown, and the petals and lip more thickly spotted, those on the latter being darker and arranged more or less in transverse zones. The flower is larger than in P. Rollissoni, but otherwise very similar. R. A. R.

NOTES.

Two meetings of the R.H.S. will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during July, on the 4th and 18th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

A Summer Show, extending over three days, will be held by the Society, on Tuesday, Wednesday, and Thursday, July 11th to 13th, in the grounds of the Royal Military Hospital, Chelsea, and the arrangements will be similar to those made for the meetings previously held at Holland Park. Silver Cups and Medals will be given, as usual, according to merit. The Orchid Committee will meet at 11 a.m. on July 11th, and the Show will be opened at 12.30 p.m.

The next meeting of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on Thursday, July 20th. The Committee meets at noon, and the exhibits will be open to inspection from 1 to 3 o'clock.

A photograph of a fine house of Phalænopsis grown by the Julius Rochrs Co., Rutherford, New Jersey, is given in the May issue of the *Gardeners' Chronicle of America* (p. 53). A group of Orchids exhibited at the St. Louis World's Fair, by Mr. Charles Gebhardt, gardener to H. G. Selfridge, Esq., of Chicago, is also illustrated (p. 51).

ORCHID PORTRAITS.

BRASSOCATTLEYA × NIVALIS.—*Journ. Hort.*, 1905, i., pp. 484, 485, with fig.

CATTLEYA GUTTATA PRINZII.—*Journ. Hort.*, 1905, i., pp. 506, 507, with fig.

CATTLEYA MOSSIÆ.—*Amer. Gard. Chron.*, 1905, p. 82, with fig.

CATTLEYA SCHRŒDERÆ.—*Amer. Gard. Chron.*, 1905, p. 54, with figs.; VAR. "THE BARON."—*Gard. Chron.*, 1905, June 3, suppl., pp. 1, 2, fig. 142.

CYMBIDIUM RHODOCHILUM.—*Gard. Chron.*, 1905, p. 378, with suppl. plate.

CYPRIPEDIUM × ALBERTIANUM.—*Rev. Hort. Belge*, 1905, p. 97, with plate, fig. 2.

CYPRIPEDIUM × AURIFERUM.—*Rev. Hort. Belge*. 1905, p. 97, with plate, fig. 1.

CYPRIPEDIUM × DOM CARLOS SUPERBA.—*Journ. Hort.*, 1905, i., pp. 528, 529, with fig.; *Garden*, 1905, i. p. 376, with fig.

CYPRIPEDIUM × ELMIREANUM.—*Rev. Hort. Belge*, 1905, p. 97, with plate, fig. 4.

CYPRIPEDIUM × MADAME JULES HYE.—*Rev. Hort. Belge*, 1905, p. 97, with plate, fig. 3.

CYPRIPEDIUM × MAUDIÆ.—*Amer. Gard. Chron.*, 1905, p. 54, with fig.

DENDROBIUM × LUNA.—*Amer. Gard. Chron.*, 1905, p. 83, with fig.

DENDROBIUM × SPECIOSUM VAR. HILLII.—*Amer. Gard. Chron.*, 1905, p. 83, with fig.

LÆLIA PURPURATA.—*Journ. Hort.*, 1905, i., pp. 464, 465, with fig.

LÆLIA PURPURATA VAR. KING EDWARD VII.—*Gard. Mag.*, 1905, p. 398, with fig.

LYCASTE LOCUSTA, Rchb. f.—*Bot. Mag.*, t. 8020.

ODONTOGLOSSUM × AMABILE VAR. IXION.—*Gard. Chron.*, 1905, June 3, suppl., pp. 2, 3, fig. 143; *Garden*, 1905, i., p. 360, with fig.

ODONTOGLOSSUM CRISPUM RAYMOND CRAWSHAY.—*Gard. Chron.*, 1905, i., p. 375, fig. 161.

ODONTOGLOSSUM × MIRIFICUM.—*Gard. World*, 1905, pp. 455, 457, with fig.

PLATYCLINIS GLUMACEA.—*Gard. Mag.*, 1905, p. 385, with fig.

POLYSTACHYA POLYCHÆTE, KRANZL.—*Rev. Hort. Belge*, 1905, p. 62, fig. 9.

ZYGOPETALUM × BALLII.—*Journ. Hort.* 1905, i. p. 551, with fig.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

G. G. Your flower is a fine and richly-coloured form of Lælio-cattleya × bletchleyensis.

E. M. C. The flowers sent for determination are Dendrobium clavatum (yellow) and D. transparens.

H. H. Sobralia macrantha.

H. J. C., Tadcaster. The flower sent is a typical Cattleya Mossiæ, except for a yellow streak on one lateral sepal, which looks as if it might have strayed from the lip.

R. N. The flowers of Cattleya Mossiæ are curiously abnormal, in having the dorsal sepal aduate to the back of the column. It may not be constant, as we have seen a similar deformity in other species of Cattleya.

D. A. L. The flower is Lycaste Deppei, and ought to have been sold to you as Anguloa Clowesii, even when out of flower.

J. N. K. The flower of Cattleya Mossiæ is both large and richly coloured, certainly above the average.

Photographs received, with thanks. A. de L., A. D.

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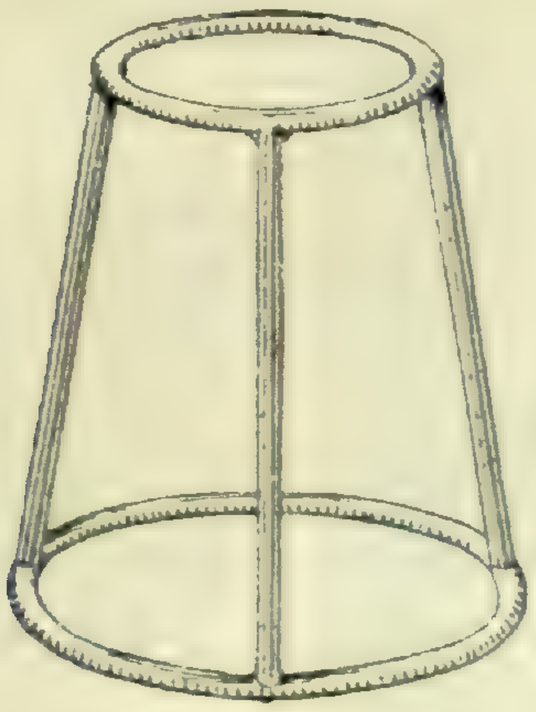

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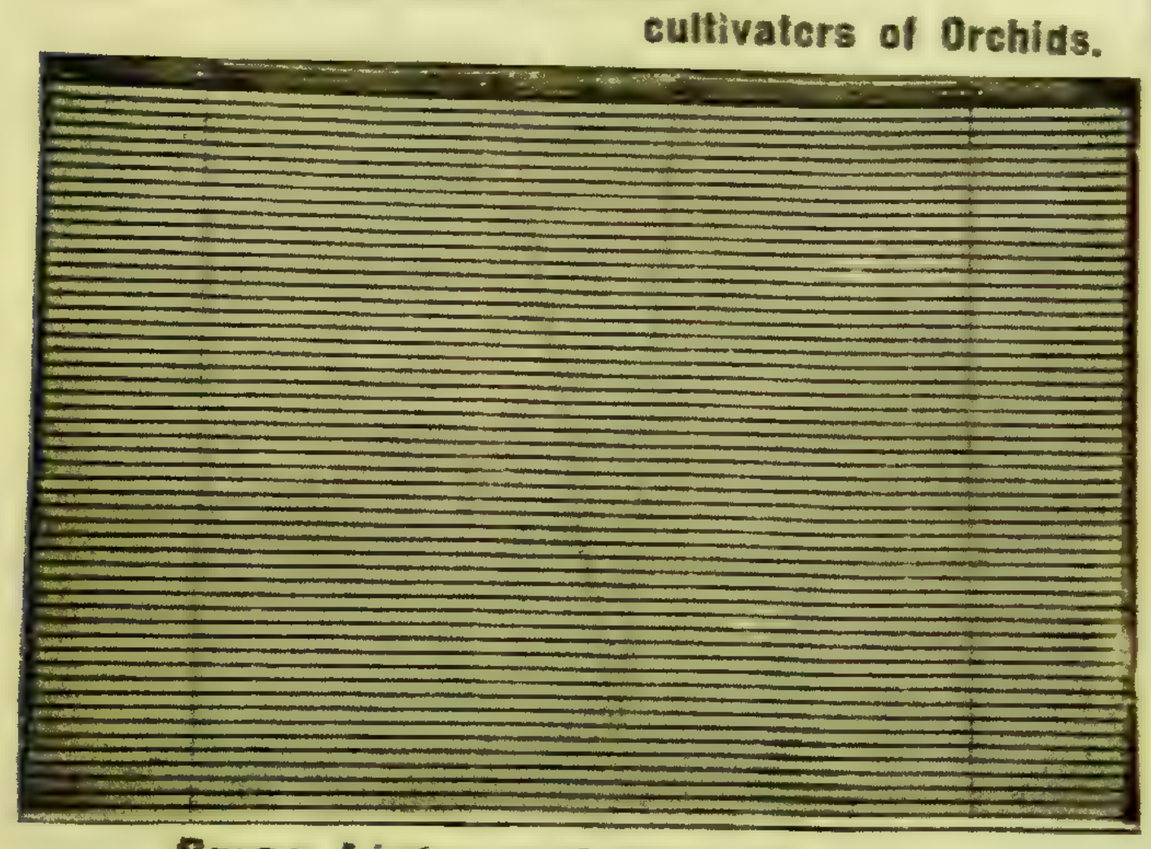

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THE ORCHID REVIEW.

VOL. XIII.] *AUGUST*, 1905. [No. 152.

NOTES ON THE GENUS PHALÆNOPSIS.

WHEN I published my "Revision of the genus Phalænopsis" about nineteen years ago (*Gard. Chron.*, 1886, ii., pp. 168-170, 212, 276-277), eleven described species were known to me only from description, and in the period which has since elapsed some additional information has come to hand, which it may be interesting to summarise. Thirty-four kinds were enumerated in my paper as distinct, two of them being admitted hybrids, and since then a few additions have been recorded. What has called attention to the question at the present time is the fact that Messrs. Charlesworth and Co. have flowered a very distinct and puzzling form out of an importation of P. sumatrana, which differs in having no hairs on the front lobe of the lip, and in several other respects, and on comparison it seems to agree best with the description of P. fasciata, Rchb. f., one of the eleven mentioned above.

PHALÆNOPSIS FASCIATA, Rchb. f., was described in 1882 (*Gard. Chron.*, 1882, ii., p. 134), from materials supplied by Messrs. Hugh Low and Co. It was said to have been introduced from the Philippine Islands. The author remarked:—"This is like Phalænopsis sumatrana in the shape of the light yellow sepals and petals, which have numerous cinnamon bars. The lip has sulphur colour lateral divisions, which are retuse, and have a blunt keel with a knob parallel to the anterior margin. Between both on the disc is a number of retrorse toothletted orange plates, and two conical papulæ terminating in bristles stand before the base of the median partition. The latter is oblong ligulate (blunt), with a deep, abrupt, membranous keel. The anterior part of it is light purple, the superior orange. There is no cushion of hairs, as in sumatrana and Lueddemanniana; hence, according to artificial characters, it might be regarded as nearest to P. violacea, yet the shape of the sepals and petals is markedly different. The sepals have no median keels outside. The top of the lip is distinct also. Leaves and roots are said to be quite like those of P. Lueddemanniana. As it is, we cannot now but regard it as distinct, though quite prepared to have one day a rebuke by the occurrence of some intermediate type." Unless

Messrs. Charlesworth's plant belongs here I cannot identify it, and whether species or hybrid is doubtful. A hybrid from P. sumatrana would scarcely have lost all trace of hairs, and there is no resemblance to P. violacea in colour. Further evidence is awaited.

Of four others described by Reichenbach I find authentic paintings in the *Day Collection of Orchid Drawings*, namely, P. Reichenbachiana, P. fuscata, P. maculata, and P. Valentinei, together with a painting of the rare P. pallens, which may be mentioned first.

P. PALLENS, Rchb. f., was drawn by Mr. Day on February 1st, 1868 (*l.c.*, xiii., t. 41), with the note:—"This plant was given to me by Mr. Rucker. It was propagated from an old flower spike on his plant." Shortly afterwards Mr. Day added:—"It propagates freely, for my plant was produced on an old flower scape of Mr. Rucker's, and this, although still so small a plant, has a young one growing on the scape." It agrees well with Lindley's drawing. The history of this plant has already been given (*O.R.*, viii., p. 327), and, as there pointed out, there are good grounds for believing it to be a natural hybrid between P. sumatrana and P. cornu-cervi.

P. REICHENBACHIANA, Rchb. f. & Sander, was drawn on September 4th, 1886 (*l.c.*, li., t. 59), when, commenting on Reichenbach's remark that the flowers were "equal to those of a fine P. sumatrana," Mr. Day wrote:—"If so, this must be a very poor variety, for the worst sumatrana I have ever seen is far superior to this." The figure was drawn from a plant sent for that purpose by Messrs. Hugh Low & Co. Reichenbach originally wrote:—"'My' Phalænopsis stands near P. pallens, and may have to be 'sunk' in it some day, though that scarcely appears probable. . . . We must watch and see." Mr. Day's drawing measures 1½ inches across the petals; the segments are comparatively broad, and light-yellow barred with red-brown, while the front lobe of the lip is light purple, and hairy on the keel. Mr. W. Micholitz has since informed me that the plant is a native of Mindanao.

P. DENTICULATA, Rchb. f. has since been described (*Gard. Chron.*, 1888, i., p. 296), and is evidently very closely allied to the preceding. It was introduced by Messrs. Hugh Low & Co., from a locality unspecified, and the author remarked, when speaking of the front lobe of the lip:—"The denticulate margin is only known in Phalænopsis pallens." All the three preceding seem very rare, and I should like to know more of their relation to each other and to P. fasciata, also to the well-known species P. sumatrana and P. cornu-cervi. At present both materials and information are very meagre.

P. FUSCATA, Rchb. f. was drawn on April 4th, 1883 (l.c., xxxii., t. 77), Mr. Day remarking:—"This was drawn at Mr. Bull's. It was imported by

him from the Philippine Islands. . . . All Phalænopsids are interesting, but this is not one of the most showy of the family." Reichenbach had stated :—" I have to thank for it Mr. Bull, who introduced it from the Malayan peninsula." The species has since been described by Cogniaux under the name of P. Denisiana (*Gard. Chron.*, 1899, ii., p. 82), and also figured (*Cogn. et Gooss. Dict. Ic. Orch.*, Phal., t. 6), from materials introduced from the Philippines by M. Fernand Denis, Vancluse, France, a well-known amateur Orchid grower. The affinity was not given, and I had at first taken the plant to be identical with P. Kuntsleri, Hook. f. (*O. R.*, vii., p. 266), a nearly allied species from Perak, but the author has since pointed out the differences between them (*Chron. Orch.*, p. 249). P. fuscata I have known in the collection of Sir F. Wigan since 1896, though at first I made the determination with some hesitation, having only the original description to go by.

P. MACULATA, Rchb. f. was drawn on July 10th, 1883 (xxxv., t. 73), two varieties being represented, one of which has much paler brown markings than the other. Mr. Day remarked :—" These two varieties being in flower at Messrs. Veitch's, I drew them both, as they are so very different. The bright coloured one is quite a little gem. . . . There was no difference in the plants." Reichenbach had called it "a little gem—one of the smallest Phalænopsids, of the same group as P. violacea," adding :—" For some time I have had in my herbarium a wild flower gathered by Mr. Curtis in Borneo, given me by Messrs. Veitch; I did not, however, expect that it would prove such a lovely gem as it now does in the fresh flower." It has since been collected at the Sarawak River, by Mr. G. D. Haviland, at Braang, on limestone, at 1.500 feet elevation, the collector recording the colour as " yellowish-white spotted with red."

P. × VALENTINEI, Rchb. f. was drawn on August 13th, 1883 (l.c., xxxvii., t. 46), when Mr. Day wrote :—" Another Phalænopsis—I suppose a new species or well-marked variety of Messrs. H. Low & Co.'s importing from Perak. . . . Mr. Stuart Low, with his usual kindness, delayed sending it to the Professor at Hamburg until I had drawn it. In my opinion it is very close to cornu-cervi and violacea. . . . It may be a hybrid between the two species above named. I wonder what the Professor will say." The latter described it as " n. sp. (hyb. nat. ?)," adding, " Mr. Day writes me . . . it looks like a cross between cornu-cervi and violacea." But he omitted to mention the locality. There is now little doubt that this plant is a natural hybrid with the parentage named, for I have since seen an authentic flower, with the inflorescence, from the original plant, which in 1890 was in the collection of E. Corning, Esq., Albany, New York, and the characters are clearly intermediate between P. cornu-cervi and P. violacea. Mr. Ridley, too, in a paper on Malayan Orchids,

after enumerating these two species, remarks :—" I have seen two examples of a hybrid found in a wild state in Perak, between this and the last " (*Journ. Linn. Soc.*, xxxii., p. 352). They were clearly P. × Valentinei, Rchb. f., which Mr. Ridley does not mention. The plant was named after Mr. S. H. Valentine, its discoverer..

Of the species enumerated in my paper there now remain six which are only known to me from description, namely P. delicata, P. Stobartiana, P. deliciosa, P. Devrieseana, P. pantherina, and P. Corningiana, all of Reichenbach. and it may now be interesting to mention those which have been described since. Two of these, namely P. denticulata and P. Denisiana, have been dealt with above.

P. FŒRSTERMANII (Rchb. f. in *Gard. Chron.*, 1887, i., p. 244) was described as a small, modest, and yet very elegant species, which was discovered by Mr. Försterman, and flowered with Mr. F. Sander. I have not seen it, but it is said to be allied to P. Valentinei, and to have white flowers, transversely barred with brown, with a yellow callus and some lightest yellow on the disc. As usual, no dimensions were given. A Phalænopsis Valentinei maculata is here mentioned, which I do not know.

P. REGNIERIANA (Rchb. f. in *Gard. Chron.*, 1887, ii., p. 746) is a Siamese species, introduced by M. Regnier, of Fontenay-sous-bois, France, and is closely allied to P. Esmeralda and P. antennifera, but described as having two rather small white teeth in lieu of the antennoid processes. The flowers are described as rose-coloured, with a dark purple lip. It is doubtful if it is more than a form of P. Esmeralda.

P. GLORIOSA (Rchb. f. in *Gard. Chron.*, 1888, i., p. 554) was introduced by Messrs. Hugh Low and Co., and was described as a glorious rival to the two oldest species. A figure soon afterwards appeared in the *Garden* (1889, i., t. 697). It has since been recorded as a native of the Sulu Archipelago. Judging by a figure in the *Day Collection of Drawings* (xxvii., t. 61). it seems barely, if at all, distinguishable from P. amabilis Dayana. Rchb. f.. which flowered in Mr. Day's collection in December, 1880, and which is said to have been collected in the Philippines by Mr. Boxall, for Messrs. Hugh Low and Co. Mr. Day remarked that it was a charming variety, having considerably more colour on the lip than usual, and the flower rather smaller. A coloured plate afterwards appeared (*Orch. Alb.*, i.. t. 11), which does not agree very well with Mr. Day's painting. Messrs. Veitch transferred both the preceding to P. Aphrodite (*Man. Orch.*, vii., pp. 24, 25), but in the narrow front lobe of the lip they agree better with the original P. amabilis. They may represent a local form.

P. BUYSSONIANA (Rchb. f. in *Gard. Chron.*, 1888, ii., p. 295) was introduced by M. A. Regnier, Fontenay-sous-Bois, France, and was described as a very stately plant, very much like P. Regnieriana, but with far brighter

colours. It was dedicated to the Compte Du Buysson, founder of *Le Orchidophile*. The country was not stated, but it may have come home with P. Regnieriana, which was described in the previous year. In 1890, M. Regnier sent another Siamese plant to Kew for determination, which I could only make to be a fine form of P. Esmeralda, and he afterwards presented living plants of P. Regnieriana and P. Buyssoniana, which on flowering proved so like P. Esmeralda that I believe them to be forms of the same, together with P. antennifera, Rchb. f. Messrs. Veitch take the same view. The larger form mentioned is figured in *Bot. Mag.*, t. 7196. as P. Esmeralda. The species has also been gathered by Curtis in the Langkawi Islands, where it grows on peat and sand at the foot of trees, so that the species is both variable and widely diffused.

P. KUNSTLERI (*Hook.f. Fl. Brit. Inds.*, vi., p. 30) was described in 1891, from dried flowers and a drawing collected in Perak by Kunstler. It has since been figured in the *Botanical Magazine* (t. 7885), from a plant in the collection of Sir Trevor Lawrence, Bart., which he obtained in 1899 from Mr. Curtis, F.L.S., Superintendent of Gardens and Forests in Perak. It is most allied to the Philippine P. fuscata.

P. MICHOLITZII (Rolfe) was introduced by Messrs. F. Sander & Co., in 1889, and flowered with them in the following year, as well as on subsequent occasions, but my description does not appear to have ever been published. It has cream-white flowers, and is most allied to P. tetraspis, Rchb. f., but the hairs on the front lobe of the lip are scattered, not arranged in a dense tuft, and the side lobes are broader and more truncate. Its habitat is not recorded.

P. MUSCICOLA (Ridl. in *Trans. Linn. Soc.*, ser. 2, iii., p. 373) is a native of the Malay Peninsula, and was found on wet, mossy trees far up the Tahan River. Mr. Ridley remarks that he obtained only one flower, and brought home a number of living plants, but, owing to the carelessness of a coolie, all perished. It is described as an ally of P. sumatrana, but quite distinct in its much smaller flowers and narrower sepals and petals, and in the structure of the lip. The flowers are said to be about as large as those of P. cornu-cervi, and the species to be of no cultural value. I have not seen it.

P. ALBOVIOLACEA (Ridl., *l. c.*, p. 373) is described as a curious little plant, resembling a Josephia at first sight, and as having the smallest flowers in the genus; also as being an ally of P. Esmeralda. It was collected at Pulau Tiuman, in the Malay Peninsula, by W. Nanson, and in the Langkawi Islands by C. Curtis. The flowers are described as three-quarters of an inch broad, white tipped with green, and some violet-rose on the lip. It has since been found at Bukit Bankong, in Malacca, by R. Derry. This, also, I know only from description.

P. FUGAX (Kranzl., in *Gard. Chron.*, 1893, ii., p. 360) was described as "a very curious Phalænopsis, the closer affinities of which are at present very little known. The whitish or pale yellow flowers open about nine o'clock in the forenoon, and begin to fade at two or three o'clock of the same day." It is Sarcochilus unguiculatus, Lindl., and does not belong to the genus Phalænopsis. See *O. R.*, ii. p. 231.

P. LINDENI (Loher in *Journ. des Orch.*, vi., p. 103) was described in 1895, as a new species discovered by the describer in the Philippines, and dedicated to M. J. Linden. It was said to resemble P. Schilleriana somewhat in the marbling of the leaves, but the shape was narrower, and the flowers more like P. rosea, but about double the size. There is a rude sketch of the plant by M. Loher at Kew, which shows the lip to be most like P. rosea in shape. I suspect it is a natural hybrid between the two species, and thus a form of P. × Veitchiana.

P. LUTEOLA (*Burbidge, Gardens of the Sun*, p. 258), is a Bornean species, found by Mr. Burbidge when on his journey to Mt. Kina Balu, near the river before reaching Kambatan, in a locality where Cœlogynes and ferns are said to be abundant. It is thus described:—"On some wet, mossy rocks beside a rushing torrent, a glossy-leaved Phalænopsis (P. luteola) displayed its golden blossoms, each sepal and petal mottled with cinnabar." The work appeared in 1880, but was not at Kew when my paper was written, and I overlooked it. I have not seen the plant, and would suggest a comparison with P. pantherina, Rchb. f., "an ill-described species from Borneo," to quote Mr. Ridley.

Two additional natural hybrids have also been described. When P. gloriosa was introduced by Messrs. Hugh Low & Co. a plant was noticed which had the leaves transversely barred and mottled with silver-grey, and the roots rather flattened, thus approaching P. Schilleriana. It bloomed in 1890, and as it showed similar intermediate characters in the flowers, was believed to be a natural hybrid between the two species, and was named P. × Schilleriano-gloriosa, and exhibited at a meeting of the R.H.S. on March 25th (*Gard. Chron.*, 1890, i., p. 398). It was described as most comparable with a light form of P. × leucorrhoda (*O. R.*, v., p. 4).

P. × Schilleriano-Stuartiana was exhibited by Messrs. Hugh Low and Co. at a meeting of the R.H.S. held on January 23rd, 1900, and gained a First-class Certificate (*O. R.*, viii., pp. 94, 113). It seems to be quite intermediate in colour between the two supposed parents, but its origin is difficult to account for, as the two species were not supposed to grow together, P. Schilleriana being chiefly from Central Luzon and P. Stuartiana from north-east Mindanao. And the two are very nearly allied. It would be interesting to know the history of the plant, whose portrait is reproduced on the next page (fig. 50).

This does not quite exhaust the natural hybrid question, which was discussed in these pages a few years ago (*O.R.*, viii., pp. 133-136), in connection with a very interesting paper by Mr. C. Roebelen, on the Distribution of the Section Euphalænopsis in the Philippines (*Gard. Chron.*, 1890, i., p. 459). Roebelen speaks of a white-flowered Phalænopsis, with silver-grey markings on the leaves, similar to those of P. Schilleriana, which has not yet been described as a distinct species, though often sent home among P.

Fig. 50. PHALÆNOPSIS × SCHILLERIANO-STUARTIANA.

Sanderiana, and which, he says, intercrosses with P. Aphrodite and P. Sanderiana. This we should like to see, as well as the natural hybrids mentioned. He also mentions a natural hybrid between P. Stuartiana and P. Sanderiana as found in the humid valley of the river Agusan, which should agree with the artificial hybrid P. × Amphitrite, raised by Messrs. Sander (Kränzl. in *Gard. Chron.*, 1892, i., p. 618).

Natural hybrids were very little understood at the date when my paper appeared, and I then included P. × leucorrhoda and P. × casta as forms of P. Aphrodite, as well as P. Sanderiana. The latter is a local species, a native of Mindanao, and is described by Roebelen as occurring from Sarangani to the River Hijo, from the very sea-shore up to the slopes of the volcano Apo.

P. × leucorrhoda, Rchb., f., is a natural hybrid between P. Aphrodite and P. Schilleriana, which appeared with Messrs. Hugh Low & Co., in 1875. Shortly afterwards a white form of the same appeared, and was

Fig. 51. P. × LEUCORRHODA VAR. CYNTHIA.

Fig. 52. P. APHRODITE. Fig. 53. P. SCHILLERIANA.

Fig. 54. P. × LEUCORRHODA.

described as P. × casta, Rchb. f. And in 1889 another hybrid appeared, in the collection of Sir Frederick Wigan, in which the apical tendrils were rather short, approaching those of P. Schilleriana, and this was described as P. × Cynthia (Rolfe in *Gard. Chron.*, 1889, p. 132). It is now clear that all three are forms of the same hybrid, two forms of which are represented in the annexed illustration, P. × leucorrhoda (fig. 54), its variety Cynthia (fig. 51), and the two parents, P. Aphrodite (fig. 52) and P. Schilleriana (fig. 53).

R. A. ROLFE.

OPHRYS × HYBRIDA: A NEW BRITISH ORCHID.

THE following note, accompanied by a small figure, reproduced from a photograph, appeared in the *Countryside* for July 1st last (vol. i., p. 125):—

"A REMARKABLE ORCHID.—Two members of the Canterbury Nature Students' Club had an extraordinary find at Wye last week. I refer to the

Fig. 55. O. MUSCIFERA. 56. O. × HYBRIDA. 57. O. ARANIFERA.

centre spike of flowers on the enclosed photo. This flower possesses the peculiarities of both the fly and spider Orchid (as shown on either side of the find), yet it is quite distinct. The finders, although ardent Orchid-hunters, have never met this before, and so far are unable to find any

mention of the species in any standard *Flora*. The base of the flower, as you will observe, is broad, like the 'spider,' yet shaped like the 'fly'; it has no antennæ, although the colourings are as the 'fly.' Perhaps you can classify it. I may mention that both flowers on the spike were alike; the peculiarities were not confined to one flower.—F. C. SNELL, Canterbury."

The figure, though much reduced, showed clearly the characters mentioned, and I immediately suspected that a natural hybrid between the two species—already known on the Continent—had been discovered, and therefore wrote asking for permission to examine the specimen, if it had been kept. Mr. Snell immediately communicated with the discoverers, which brought me a prompt reply from Mr. G. W. Harris, which may be summarised here :—

"The finders were my partner, Herbert Walker, and myself, the time being about the end of May. We dried the specimen, and I am writing to Mr. Walker, who has it in London, asking him to forward it for your inspection. I have pleasure in enclosing photos, which I think you will find interesting. One is about natural size, the other magnified. I think they show the flowers better than the one sent to the *Countryside*. There are plenty of the Ophrys muscifera near; in fact, we gathered it for this until we examined it closely. There were no aranifera very close, as it was in a shaded copse, but the aranifera grows wild plentifully within fifty to one hundred yards, on the slopes of the Wye Downs."

The two photographs sent have been combined in our illustration, the upper portion showing the plants about natural size, the lower somewhat magnified, and it is hardly necessary to add that the left-hand figures show the "Fly Orchid" and the right hand the "Spider," while the hybrid occupies the centre. The latter is so obviously intermediate in shape and details as to leave no vestige of doubt as to its origin. It agrees with the Ophrys × hybrida, Pokorny, whose history may now be given.

The earliest record of a hybrid between Ophrys muscifera and O. aranifera that I know of occurs in 1851, when the younger Reichenbach described and figured Ophrys × hybrida, Pokorny (*Rchb. Fl. Germ.* xiii., xiv., p. 79, t. 465, fig. 1), as a plant found growing with the two species named at Bissamberg, near Vienna, on May 8th, 1846, by Pokorny; and from the name given it is clear that its hybrid origin was suspected. In the same work is described and figured Ophrys × apicula, J. C. Schmidt (*l.c.*, p. 79, t. 454, fig. 1), as a plant gathered at Holderbank, in the Canton of Aargau, in Switzerland, as early as June, 1832, by Dr. J. K. Schmidt, growing with the same two species. A painting by the collector was sent to Reichenbach in June, 1847. Although the origin of the plant seems to have been suspected I do not find any earlier record. O. × Reichenbachiana,

M. Schulze, described in 1889 from another Austrian locality (*Mitth. Bot. Verh. Jena*, vii., p. 29), also appears to be a form of the same hybrid. The plants under discussion have recently been figured in colour by M. Schulze (*Orch. Deutsch. Deutsch-Oesterr. und Schweiz*, t. 28 C), where the author describes O. × apicula as quite intermediate between the two parents, O. × hybrida as most inclining towards O. muscifera, and O. × Reichenbachiana as bearing a similar relation to O. aranifera, this having an entire lip, though the flower is intermediate in other respects. Two other Swiss localities are also recorded, namely, Irchel, and Küttingen, near Aarau. It might occur presumably wherever the two species grow in proximity to each other, and its discovery in Kent is very interesting. A careful search might lead to its detection in other British localities. It should be added that the dried specimen of O. × hybrida (fig. 56), with copies of the two photographs, have been presented to Kew.

It now remains to add a brief note on the two parent species, which are also figured.

O. MUSCIFERA, Huds., the Fly Orchis (fig. 55), is a common British species, chiefly found in woods and thickets on a damp calcareous soil, extending as far north as Durham and Westmoreland, and also represented in Central Ireland. It has also a wide range in Central and Eastern Europe, becoming rare in the south. The sepals are green, and the petals and the smooth lip brownish purple, with a pale spot on the disc.

O. ARANIFERA, Huds., the Spider Orchis (fig. 57), is rare or local in South-eastern England, on dry, chalky soils, from Kent to Dorset, Northamptonshire and Suffolk. It is more common in South Europe than the preceding, but does not extend so far north or east. The sepals and petals are green, and the hairy lip dark brown, with pale markings.

R. A. ROLFE.

PAPHIOPEDILUM FAIRRIEANUM.

ANOTHER stage in the history of the "lost Orchid" has been reached. The *Gardeners' Chronicle* for July 22nd announces (p. 62) that "Cypripedium Fairrieanum has arrived at St. Alban's at last." The history of its rediscovery and arrival at Calcutta we have already recorded, and now we may soon expect to hear of its being offered for sale. It is remarked :— "About the identity of the coveted species there can be no doubt," but of course this merely repeats what has already been said, though we believe the point will be confirmed when the flowers appear. The young scapes now appearing on the Kew plants, including the hairy bracts, are absolutely ndistinguishable, and we may not have to wait long for the flowers.

R. A. R.

CHYSIS BRACTESCENS.

CHYSIS BRACTESCENS is a very striking Orchid when seen in good condition, as its large and handsome flowers look as if they might almost have been carved out of wax. The habit of the plant, too, is very distinct, as the stems are fusiform in shape, and leafy towards the apex, while the

Fig. 58. CHYSIS BRACTESCENS.

inflorescence appears with the young growths in spring. It is easily distinguished from its allies by its large, ivory-white flowers, with some light yellow, and a few red streaks on the lip; and its rather prominent bracts. It is the most popular species in the genus, but the flowers are not always as well displayed as they might be, owing to the short bracteate

inflorescence. Our figure represents a plant grown in the collection of E. P. Collett, Esq., Chorlton-cum-Hardy, Manchester, and is reproduced from a photograph by Mr. Collett. An interesting note on its culture is given in *Reichenbachia* (vol. i., p. 41, t. 18), which we may here reproduce.

Chysis bractescens is found growing in thick forests on the stems or large branches of trees. In the States of Vera Cruz and Tabasco it occurs towards the foot of the mountains at about 1,500 feet altitude, where the temperature ranges from about 70° to 80° Fahr., except during the winter season, when it is lowered by north winds. It is naturally a deciduous epiphyte, and is sometimes found growing on the trees by its roots alone. Seldom is this Orchid grown to perfection; generally it is represented by sickly plants, in many cases the result of growing them in hot, ill-ventilated houses. When well grown, the pseudobulbs measure from a foot to eighteen inches and even two feet in height, and of proportionate thickness. It should be grown in a well ventilated part of the East Indian house during the greater part of the year, and should be in a suspended basket, so as to afford it abundance of light, though not fierce sunlight at mid-day. If grown in a pot, it should be placed on a high stage as near the roof as convenient. The pot or basket should be well drained, and the compost should be fibrous peat and sphagnum moss, sufficiently open or porous, so that the roots may penetrate freely and allow superfluous moisture to drain away. During active growth, which takes place in summer, an abundant supply of water must be given, and the atmosphere kept moist and well ventilated, in order to keep the foliage free from thrips, which are very liable to attack this Orchid when grown in a hot and dry house; frequent syringings overhead during hot and dry weather will tend to keep this pest away.

The resting period begins as soon as the current season's bulbs are fully developed, which is towards the end of summer. The plant must then be placed in a cooler and drier atmosphere, either in the same or another house. The lower temperature and dryness will conduce to the ripening of the bulbs, which is the chief point to consider, bearing in mind that the longest and best ripened bulbs produce the finest spikes of flower. In early spring the plant will start again into active growth, when it should be removed to warmer and moister quarters. The flower spikes are produced from the new bulbs when about 5in. or 6in. long, which is about the middle of May, the flowers lasting in perfection two or three weeks. After the flowers are past, the plant may be subjected to a warmer and moister treatment. Imported plants usually flower well the first season from the native grown bulbs. It is during the first season after importation that the plant requires close attention, in order to produce strong growths.

CALENDAR OF OPERATIONS FOR AUGUST.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

FOR this month the general growing conditions of the various departments should remain as previously advised, and every effort should be made to induce free and vigorous growth on the part of the plants, and success will be sure to follow. To secure these conditions, it is necessary to give strict attention to ventilation, warmth, moisture, shading, and cleanliness, not one of which should be at all neglected. It is necessary to emphasize the above remarks, knowing well how important they are. Many of the warm and intermediate Orchids are absolutely starved during their growing season, which is the summer months, simply for the want of the liberal treatment which should then be given to them. Under such conditions, it is quite impossible to secure that free, healthy growth which will develop into large, strong pseudo-bulbs, and without these no Orchid can produce large flower spikes, and thus be seen at its best. At the same time it is no easy matter to lay down instructions which shall apply to every case, because the position and internal arrangements of glass structures vary so considerably; and this being so, the methods in dealing with them must necessarily vary too.

Some few species have now completed their season's growth, and many more are fast approaching that stage. When growth is finished at this early season, it is generally advisable, wherever possible, to remove such plants from the house in which so many others are still growing actively. If a department exists in which these early species can be accommodated, where they may gradually receive more light, air, and less moisture, so much the better. If not, they should be grouped together in the same compartment, giving them a position near the door, or some other place, so that they may have their special requirements the more easily and surely attended to. Do not withhold water too suddenly at the root, but allow them to lapse into a dormant state slowly and gradually. The foregoing remarks will apply to a few Cattleyas which will either have finished their growth by now or will do so during the month. The two principal ones are C. Gaskelliana and C. Warscewiczii (gigas), which will not only have completed their new growths, but have flowered also, and desire nothing more than to be kept quiet. Either species may be repotted immediately after blooming—if this is required—or may be left over until early spring. The same remarks will also apply to C. Rex and C. Warneri. C. Gaskelliana is a grand species for midsummer work, and is now at its best. Whether repotted now or not, it will continue, after blooming, to make plenty of roots, the pseudo-bulbs swelling and plumping up until finally matured. Water should, therefore, not be discontinued for

some time to come. At the same time it is only reasonable that this, and the other species mentioned, having nearly finished up their growths, should demand conditions differing somewhat from others still in the middle of their growing season. More air may be admitted on their side if grouped together, and less shading used, but the water must never be reduced too soon, or the ripening process will be too quick, causing an undue check, with its attendant evils.

The present season is a good one for doing up the various species of the Cool Orchid house which have not yet been attended to. Odontoglossum Rossii and O. Cervantesii are two very pretty and useful species which pay to grow well, as they then bloom profusely. Weak plants produce a few individual flowers here and there only, and are too small to make a show. Both species suffer greatly from too much meddling with at the root, and, on this account, they should only be repotted when strictly necessary. If repotting is contemplated, it should be done not later than this month, and the greatest possible care taken not to disturb or break the roots. If the stages are very near the glass, they grow well there in small pots, otherwise they are better in pans and suspended. What little compost is required about their roots should be mostly all fibrous peat, which will not decay so quickly as moss. They delight in a cool, airy atmosphere, and require but little water at the roots at any time of the year. The above remarks, so far as they refer to matters of repotting, apply also to the other chief inmates of this department, which are principally Oncidiums and Odontoglossums. Let the roots be preserved in a sound, healthy condition by sensible and discreet watering, and then but little repotting is necessary. Of course, throughout the growing season, a good deal of moisture is indispensable about these cool Orchids, as well as with the warm ones. The compost should not, however, be soddened by being water-logged, as it quickly turns sour, and decays, causing the roots of the Orchids to perish.

Disa grandiflora and other species of Disa, and their hybrids, are now making a good display. D. grandiflora is certainly the best and showiest, and the most useful of them all. It is not always successfully cultivated, in fact it is seen frequently in a by no means flourishing condition. It does not remain in this condition long, for if not grown well it will soon disappear, therefore if the plants are doing badly some other method must be employed at once. Generally speaking they share the same fate as many another Orchid, and are killed by too much kindness, or, in other words, by not being grown sufficiently hardy. The average greenhouse should prove to be a suitable place for them, and beyond all doubt it is so, for all the plants require is to be kept a little more shady and moist than the majority of the other inmates during the summer months. When the right

treatment is found for them they grow and propagate so freely and healthily that insect pests will give but little trouble, though yellow thrips are a great nuisance, and can be dislodged only by using tobacco powder. Sandy peat seems to be the most correct compost, while pots are the best receptacles. Drain the pots with crocks about one fourth their depth only, and pot up rather firmly. Place in each one or more tubers, according to the size of the pot employed, a 48-sized pot being large enough for one fully-grown tuber. Soon after flowering is past is the best time to repot. The off-shoots, which are always plentiful, may be removed from the parent tuber, and propagated in small pots. Unless the pots are over-crowded Disas do not require repotting every year. D. racemosa, D. tripetaloides, and the hybrids will succeed under similar treatment.

Nanodes Medusæ, the flowers of which are very interesting, if not strictly pretty, should be grown in the Cool house during summer and the Intermediate one in winter. The unusual colour of the flower, and the large, fringed lip are the most conspicuous qualities of the bloom. But the plant itself is attractive when well grown, the stems being drooping and thickly sheathed with short distichous light green leaves. It does well in either baskets or pans suspended, and but little if any peat should be used, as it seems to thrive well in sphagnum moss alone. Now is a good time to re-pan or top-dress, and it is fond of a good supply of water during the summer months.

Lycaste Skinneri is now in full growth. It is discarded by some and liked by others, and certainly some of the varieties are very chaste and delicate. If grown in the Cool house, it should not be left there too late in the autumn, but removed to the Intermediate house. Here, again, root disturbance is most harmful, and need not take place except at long intervals, if they are potted well and watered carefully. A compost consisting chiefly of peat with a little sphagnum moss is the best in which to grow them.

CALANTHES of the vestita and Veitchii section are growing very freely both above ground and at the roots, and must be encouraged by liberal watering and ample heat. Occasional light dewings overhead will be useful in hot weather, but must not be overdone, while liquid manure given in a weak state about once a week is very helpful. Cow manure and soot water may be used in turn. A very successful grower of my acquaintance pots his Calanthes rather low in spring and top-dresses them now with fibry loam that has been soaked with liquid manure. It is an old practice borrowed from fruit-growers, but in his case very successful.—H. R. H. in *Journal of Horticulture*.

HYBRID ODONTOGLOSSUMS.

THE annexed figures represent two very interesting hybrids of Odontoglossum crispum which have recently flowered for the first time, and are reproduced natural size from photographs by Mr. E. C. Hart, the second, however, being a photograph of a painting by Miss Roberts.

O. × crispodinei (fig. 59) is a secondary hybrid, raised in the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), from O. crispum ♀ and O. × Coradinei ♂, the latter itself a natural hybrid from O. crispum and O. Lindleyanum. Three seedlings have at present flowered, and of these one had a bright yellow ground, and the others white, one of the latter being represented in the photograph. It is most comparable

Fig. 59. O. × CRISPODINEI.

Fig. 60. O. × THOMPSONIANUM.

to O. × Coradinei, but the segments are comparatively broader than in most forms of that hybrid, and the lip has rather more of the crispum shape. The markings are cinnamon brown, and the column wings are broad and well toothed. The flower will evidently improve in size when the plant becomes strong. Mr. Crawshay describes the first seedling mentioned as having a bright yellow ground, with a large brown blotch on each sepal, covering about half its area, a smaller spot on each petal, and another on the lip. The lip is broad at the base and narrowed at the apex. This also has more of the crispum shape. The name is compounded from that of the two parents. It will be interesting to watch the development of

this batch of seedlings, and see if any of them are comparable with wild forms. Had the one figured appeared among imported crispums it would probably have been taken for a small Coradinei of good shape with a white ground, and it may possibly be that some forms referred to O. × Coradinei are secondary hybrids. We have to judge the origin of these natural hybrids entirely by their characters, guided by a knowledge of what grow together, and as O. × Coradinei necessarily grows with its two parents it may again cross with either of them. When we have more secondary hybrids of known origin it will be interesting to examine the question. It is premature at present. It is a matter for congratulation that the proofs are beginning to accumulate.

O. × THOMPSONIANUM (fig. 60) was so recently described (see p. 175) that there is little to add respecting it. A photograph sent by Mr. Stevens was hardly suitable for reproduction, and, as the sender remarked, the colour is most difficult to photograph without special appliances. But a painting by Miss Roberts was also sent, and this has been satisfactorily photographed by Mr. E. C. Hart, on an isochromatic plate, with the help of a yellow screen, and the photograph is here reproduced, natural size. It gives a very graphic idea of the shape of the flower, and the colour is given in the earlier note. It will be interesting to see the plant again when it has reached its full development.

R. A. R.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of the R.H.S. was held at the Royal Horticultural Hall, Vincent Square, Westminster, on July 4th, and as the body of the Hall had been given up to an exhibition of the National Sweet Pea Society, it had been arranged that groups of Orchids should not be staged. The following were entered to go before the Orchid Committee, and it will be seen that three First-class Certificates, three Awards of Merit, and one Cultural Commendation were issued.

R. Briggs-Bury, Esq., Bank House, Accrington (gr. Mr. Wilkinson), received a First-class Certificate for Cypripedium Lawrenceanum Hyeanum Bank House var., a particularly fine plant bearing three handsome green and white flowers.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. Davis), received a First-class Certificate for Cypripedium × Daisy Barclay (Godefroyæ leucochilum × Rothschildianum), a very handsome hybrid, fairly intermediate in character, having cream-yellow flowers bearing spotted lines of claret purple, and spotted with purple on the lip. It is best comparable with C. × Rolfei.

F. Menteith Ogilvie, Esq., The Shrubbery, Oxford (gr. Mr. Balmforth), obtained a Cultural Commendation for a stand of Cypripedium niveum, with an aggregate of thirty-six fine flowers. An Award of Merit also went to Oncidium crispum Shrubbery var., a particularly dark and handsome form.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), showed Lælio-cattleya × Mrs. Freke-Gould (Lælia tenebrosa × Cattleya × inter-texta), a very pretty hybrid, having white sepals and petals, delicately veined with rosy lilac towards the apex, and the front of the lip bright purple; also Cypripedium Godefroyæ citrinum, a large pale yellow form having an irregular network of claret-purple on the sepals and petals, and a few similar spots on the lip. To the latter an Award of Merit was given.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. Day), received an Award of Merit for Lælio-cattleya × Massangeana Harry Goodson (L. tenebrosa × L.-c. × Schilleriana), a handsome hybrid having yellowish sepals and petals tinged and veined with purple, and the lip whitish at the base and purple-crimson in front.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), showed two plants of Odontoglossum × crispodinei (crispum × Coradinei), which came out of the same seed-capsule. One had a white ground, blotched with cinnamon-brown on all the segments, and the lip rather broad; the other had a yellow ground with a large brown blotch on each sepal, and an occasional one on the petals, and altogether rather more of the Coradinei character.

H. Little, Esq., Twickenham (gr. Mr. Howard), sent a flower of Lælio-cattleya × Ivernia Little's var. (L.-c. × callistoglossa × L. tenebrosa), a rather dark form, having lilac-purple sepals and petals and a claret-purple lip.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), sent Odontoglossum crispum Fearnley Sander, a large and richly coloured variety, the reddish-purple markings occupying the greater part of the surface.

R. G. Thwaites, Esq., Streatham (gr. Mr. Black), showed Odonto-glossum Pescatorei album Thwaites' var., a fine pure white form with orange crest to the lip.

Messrs. Charlesworth & Co., Heaton, Bradford, received a First-class Certificate for the distinct and handsome Cymbidium Huttoni, a remarkable Javan species, whose history is given at page 232 of our eighth volume. It was almost lost sight of for many years.

Messrs. J. Bruce, Surrey Street, Strand, W.C., sent two examples of Epidendrum alatum.

The report of the Scientific Committee of the same date contains the following references to Orchids :—

INTERESTING ORCHIDS.—Mr. F. W. Moore, V.M.H., sent the following interesting Orchids from the Botanic Gardens, Glasnevin :—

No. 1. Stauropsis fasciata, a native of the Malaya, and a rare species, belonging to the distichous-leaved section. It is rarely found in collections, and is remarkable for the curious shape of the lip and the attachment of the lip.

No. 2. Bulbophyllum saurocephalum, also a rather rare plant, native of the Philippines. It is remarkable for its swollen peduncle, and belongs to the clavate group. The species in this group are closely allied, and are all characterised by the swollen flower-stalk, in which the flowers are generally sunk.

No. 3. Bulbophyllum quadrifarium (Rolfe). This is a new species from Madagascar, recently named and described. It is very rare, and is remarkable in having a portion of the peduncle carrying the flowers quite square, so that it has a four-sided appearance. The inconspicuous flowers seem to be highly self-fertile, as a number of fruits were produced on each inflorescence.

No. 4. Bulbophyllum erythrorachis (Rolfe). A new species like the last two, with a long, club-shaped, red rachis. [This should have been written B. erythrostachyum. (See *O.R.*, xi., p. 200.—ED].

No. 5. Bulbophyllum inflatum (Rolfe). A new species with a curiously inflated rachis about 2½ inches long and ¾ inch in diameter, bearing numerous small greenish-white flowers. [The word "new" should have been written "rare," for this curious West African species was described fourteen years ago (*Gard. Chron.*, 1891, i., p. 234.—ED.]

THE CHELSEA SUMMER SHOW.

The second summer show of the Society was held this season in the grounds attached to the Royal Military Hospital, Chelsea, on July 11th to 13th, in delightful weather, and as the space available was ample for the exhibits, the meeting was very successful. The Orchids occupied one side of the central staging of the large tent, and made a very fine display.

Jeremiah Coleman, Esq., Gatton Park, Reigate (gr. Mr. Bound), staged a very fine group, artistically arranged with Nepenthes and sprays of Asparagus scandens, and gained a Gold Medal. It was backed with some good Oncidium macranthum and other tall things, while in front were undulating banks of moss, with a lot of good Cypripedium niveum, and tufts of the British Orchises pyramidalis and maculata, with Ophrys apifera, and some dwarf exotic Orchids, forming a novel and very attractive feature. We noted also several plants of the floriferous Epidendrum ×

Boundii, E. prismatocarpum, some good examples of Miltonia vexillaria, M. v. alba, M. Warscewiczii, Odontoglossum × Wilckeanum Rothschildianum, O. Pescatorei, some good O. crispum, various Mesdevallias, Phalænopsis amabilis Rimestadiana, Cattleya Forbesii, C. Warscewiczii, C. Mendelii, L.-c. × Wilsonii, L.-c. × Canhamiana alba, L.-c. × Sunrise, Oncidium prætextum, Cypripedium callosum Sanderæ, C. superbiens, C. Chamberlainianum, Lælia tenebrosa, Dendrobium × Cassiope, Bulbophyllum barbigerum, Brassavola Digbyana, a form of Trichopilia coccinea with greenish flowers, except that the throat of the lip was crimson, &c.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), obtained a Silver-gilt Flora Medal for an excellent group, containing the handsome Zygopetalum Roeblingianum, Sophrocattleya × Chamberlainii, two good Phalænopsis violacea Schrœderiana, Miltonia vexillaria superba, M. v. rubella, Odontoglossum Uroskinneri, Lælio-cattleya × Hippolyta Phœbe, L.-c. × H. langleyensis, Masdevallia muscosa, Oncidium curtum, Lælia tenebrosa, Cattleya Mendelii, C. granulosa, Cypripedium callosum Sanderæ, C. × Excelsior, C. superbiens, C. Curtisii, C. × Goweri magnificum, C. × Cymatodes, C. concolor Sanderæ, &c.

N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Chapman), received a First-class Certificate for a plant called Cattleya Mossiæ alba Tracy's var., but which we consider to be a good C. Gaskelliana alba, as the flowers appear on the young growths, and both the shape of the flower and colour of the disc are more in agreement than with the albino form of C. Mossiæ. Some members of the Orchid Committee wished to alter the name, but the majority were against it. A similar discussion took place last year when the plant obtained an Award of Merit, and with similar result.

Walter Cobb, Esq., Tunbridge Wells (gr. Mr. Howes), received an Award of Merit for a remarkably fine plant of Bulbophyllum Lobbii var. colossus, bearing upwards of three dozen very fine flowers. A Cultural Commendation was also awarded. The history of the species was given at page 196 of our last issue.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a remarkably fine group, which gained the award of a Gold Medal. It contained a fine plant of Schombocattleya × spiralis (Schomburgkia tibicinis × Cattleya Mossiæ), a remarkable hybrid, whose history, with a figure of the flower, is given at page 249, Brassia Gireoudiana, Phalænopsis violacea, the handsome Brassolælia × Helen (figured at page 169 of our tenth volume), some good Cattleyas, including C. Eldorado Wallisii, C. × Fernand Denis, C. Aclandiæ, C. Mossiæ Reineckeana, C. M variabilis, C. × Nestor (Schilleriana × Lueddemanniana), C. × Hyades, three good examples of C. ×

F. W. Wigan, Aerides × I'Ansoni, Epidendrum aromaticum, E. arachnoglossum, a remarkably fine dark form of Lælio-cattleya × Dominiana, some good L.-c. × Canhamiana, L.-c. × Aphrodite, L.-c. × callistoglossa, L.-c. × Lucilia dulcis, a pretty yellow form, and others, Ornithocephalus grandiflorus, three forms of Odontoglossum × Othello, O. × Fascinator, several good O. × Rolfeæ, Promenæa xanthina, Cypripedium × Daisy Barclay (Godefroyæ leucochilum × Rothschildianum), Oncidium prætextum, O. cucullatum, O. macranthum, O. leucochilum, O. pulvinatum, O. phymatochilum, and other interesting things.

Messrs. Sander & Sons, St. Albans, also staged a very fine group, which gained a Silver Cup. It consisted largely of Lælio-cattleyas, including a rich series of L.-c. × Martinetii varieties, showing a remarkable range of colour, some good L.-c. × Canhamiana, L.-c. × bletchleyensis, L.-c. × Hippolyta, L.-c. × Aphrodite, a fine Vanda cœrulea bearing three racemes, Epidendrum prismatocarpum, Miltonia vexillaria Empress Augusta, M. × Bleuana, Oncidium leucochilum, Cattleya Warscewizii Sanderæ, C. W. saturata, C. intermedia alba, C. Harrisoniana violacea, and other good things. A First-class Certificate was given to C. Mossiæ Reineckeana excelsa, a large and handsome white form, having the front lobe of the lip tinted with violet and veined with purple crimson. An Award of Merit went to Cattleya Warscewiczii Our Queen, a beautiful form having white sepals and petals, and the lip rose-purple, with the usual pair of pale blotches in the throat.

Messrs. Hugh Low & Co., Bush Hill Park, staged an effective group, backed by half-a-dozen well-flowered plants of Oncidium carthaginense, and an example of O. divaricatum. We noted also a fine example of Cattleya Mendelii with over twenty flowers, C. Leopoldi, C. Grossii, some good C. Mossiæ and Gaskelliana, Sobralia macrantha alba, Phalænopsis Sanderiana, Brassavola Digbyana, some good Epidendrum vitellinum, E. odoratissimum, E. prismatocarpum, the rare E. campylostalix, Lycaste tricolor, Calanthe veratrifolia, Cymbidium Lowianum, Maxillaria grandiflora, Masdevallias muscosa, Schrœderiana, and others, Scaphosepalum ochthodes, Odontoglossum × elegantius, Lælio-cattleya × C. G. Roebling, Bulbophyllum Dearei, Cypripedium niveum, C. × I'Ansoni, with three fine flowers, C. Stonei, C. tonsum, C. superbiens, C. × Euryale, C. Curtisii, and others. A Silver-gilt Flora Medal was awarded for Orchids, Carnations, etc.

In the Horticultural Sundries tent we noticed that Messrs. Dowell & Son, of Hammersmith, had a good display of Orchid pots, including sizes for the tiniest seedlings, a Silver Banksian Medal being awarded. There were also good samples of Orchid Peat, Insecticides, and other requisites, including the well-known Beetlecute of Messrs. Valls & Co.

At the ordinary meeting held on July 18th, very few Orchids put in an appearance, the body of the hall being set apart for an exhibition of the National Carnation Society. The exhibits consisted solely of plants submitted to the Orchid Committee to adjudicate upon, and two Awards of Merit and two Botanical Certificates were given.

G. F. Moore, Esq., Bourton-on-the-Water (gr. Mr. Page), received an Award of Merit for Lælio-cattleya × chardwarensis (Lælia cinnabarina ♀ × Cattleya dolosa ♂), a very attractive hybrid. The inflorescence was about nine inches long, and bore eight flowers, about 3½ inches across, the sepals and petals being blush white slightly tinged with buff, and the three-lobed lip pale yellow prettily veined with rose-purple.

Mrs. Haywood, Woodhatch, Reigate (gr. Mr. Salter), received an Award of Merit for "Miltonia vexillaria radiata magnifica," a handsome form, having large rosy lilac flowers, lined with purple at the base of the lip.

Miss E. Wilmott, Warley Place, Great Warley, Essex (gr. Mr. Preece), received a Botanical Certificate for Maxillaria picta Warley variety.

Messrs. Hugh Low and Co., Bush Hill Park, sent Phalænopsis violacea Low's variety, a handsome form, and Notylia multiflora, the latter receiving a Botanical Certificate.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), sent Lælio-cattleya × Geoffrey (Lælia longipes Lucasiana ♀ Cattleya Warscewiczii ♂), a very interesting hybrid, having rose-coloured sepals and petals, and the lip orange with a rose-coloured margin and base. The flower most resembles the Lælia in shape and in the crisped lip, but is much enlarged, and the petals are broader.

J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. Davis), sent Cypripedium × Penelope (Morganiæ × superbiens), and Lælio-cattleya × Henry Greenwood Glebelands' variety, the latter having the sepals and petals very pale lilac, and the front lobe of the lip rich purple.

The Right Hon. Sir A. B. Crossley, Bart., M.P., Somerley Hall, Lowestoft (gr. Mr. Hanson), sent a fine flower of Lælio-cattleya × Clive.

Messrs. James Veitch and Sons, Chelsea, sent Cattleya × Carmen (Warscewiczii × Lueddemanniana), having a light rose-coloured flower, with the front lobe of the lip crimson-purple.

ORCHIDS AT KEW.

SEVERAL rare and interesting Orchids are flowering in the Kew collection, and among them the handsome Pescatorea Klabochorum, one of the handsomest species in the genus. A fine plant of Stanhopea tigrina has already produced several twin-flowered scapes, which, counting those not yet expanded, number twelve, the flowers opening at intervals. A fine plant

of Lycaste Deppei carries about 32 flowers, another interesting species in bloom being L. leucantha. The rare Listrostachys caudata is carrying a raceme of six flowers, which are remarkable for their long curved spur, while L. forcipata is remarkable for its equitant leaves and pellucid white flowers. Grammangis Ellisii is carrying two very fine racemes, and a good Dendrobium Maccarthiæ has nineteen blooms, including one raceme of four. About a score of plants of Disa grandiflora make a very fine display, and near by is a well-bloomed example of Calanthe × Dominii, the first hybrid Orchid raised artificially. Other interesting Orchids are Catasetum Russellianum with two racemes, C. × splendens, and C. macrocarpum, the rare Colax triptera, Cochlioda brasiliensis, Oncidiums dasytyle, prætextum and Gardneri, Sophrocattleya × Chamberlainiana with four flowers, having light rose-purple sepals and petals and a yellow lip, two plants of the rare Floridan Epidendrum tampense, a good Paphiopedilum glaucophyllum, the New Guinea P. præstans, and numerous others, besides a good example of Phragmopedilum Lindleyanum, and a number of small species which are so well represented in this rich collection.

ORCHIDS IN SOUTH AFRICA.

WE have received a photograph and description of a fine form of Paphiopedilum insigne from the collection of J. A. Chaband, Esq., Port Elizabeth, South Africa. Mr. H. Rabidon writes that it came, among others, from Calcutta, but when it flowered proved much superior in every respect. It is also a strong grower. The photograph shows a very vigorous plant with two flowers, of good shape, and well blotched on the dorsal sepal. The colour of the latter is described as greenish-yellow, with distinct apple green veins, and the blotches purple-brown. It is well known what a large amount of variation has appeared among the importations of this species made during recent years, and also that a large number of forms have received varietal names, but whether any of them are identical with the present one we cannot say. It is a form to be taken care of.

Mr. Rabidon remarks that he is "an interested reader of the *Orchid Review*, and that the Orchid community of South Africa is as yet small, but some day, when larger, he hopes that we shall be able to interest our readers at home with remarks from this corner of the British Empire. It would be interesting to hear something of the conditions under which they are grown there, as the climate is so different from ours. South Africa is also rich in indigenous species, though many are chiefly of botanical interest.

SCHOMBOCATTLEYA × SPIRALIS.

ON August 20th, 1903, a remarkable hybrid between Schomburgkia tibicinis ♀ and Cattleya Mossiæ ♂ was exhibited at a meeting of the Société Nationale d'Horticulture de France, under the above name, by M. Dallemagne, of Rambouillet, France, and received a First-class Certificate (*Journ. Soc. Nat. Hort. Fr.*, 1903, p. 534). It has now been exhibited in England, being included in the fine group staged by Messrs. Charlesworth and Co., at the R.H.S. meeting held at the Royal Military Hospital, Chelsea, on July 11th. The annexed figure represents one of the flowers, about two-thirds natural size, and is reproduced from a photograph taken

Fig. 61. SCHOMBOCATTLEYA × SPIRALIS.

by Mr. E. C. Hart. The flower has a full expanse of six inches across the petals, and it will be seen that it has retained the character of the seed parent to a remarkable extent, though the size is about doubled. The segments are also far more acuminate, and twisted—in allusion to which the name is given—while the side lobes of the lip are less rounded and overlapping, and the front lobe greatly enlarged and separated from the side lobes by a broad isthmus. The sepals, petals, and front lobe of the lip are bright rose-purple, and the side lobes tipped with the same colour, while inside they are veined with dark purple on a light buff-yellow ground.

The disc is reddish-purple at the base and yellow in the centre. The pollen masses are as unequal as in Lælio-cattleya, as would have been expected. In habit the plant has retained most of the characters of the seed parent, having stout pseudobulbs, with two or three ovate, coriaceous leaves at the apex, and an erect, terminal, stout inflorescence about eighteen inches long, bearing several flowers. It is certainly a very distinct and remarkable hybrid, with a very richly-coloured flower, and a lip which in colour and markings somewhat recalls a dark Lælia anceps. It might be worth while to try the effect of a second cross with the Cattleya parent in the hope of broadening the segments, while retaining many of the distinctive features of the Schomburgkia.

ORCHID GROWING IN MEXICO.

OUR readers have already made the acquaintance of Mr. J. C. Harvey, La Buena Ventura, Mexico, through some interesting notes on the Orchids of that region (*O.R.*, xi., pp. 354-358), and now we have received the following communication from him.

Mr. Harvey writes:—"I have an immense collection of tropical plants here, all grown naturally—Orchids on trees, and other plants in open ground: about 125 species of exotic palms, Indian, Malayan, South American, &c., besides our native species—the latter numbering about fifteen for this district; a fine tropical climate, 100 inches of rain distributed over nearly nine months, and a temperature of 60° to 90° F., according to the season of the year.

"I am very fond of Orchids, and a good many years ago cultivated quite a good selection of the showiest and most interesting species in California, of course, under glass. Here it is a great pleasure to attach them to the proper trees, and simply watch them grow with absolutely no care whatever, except to look out for an occasional attack of insects. I have very few exotic Orchids; Dendrobium nobile, D. crumenatum, Phalænopsis Esmeralda, Brassia Lawrenceana, and one or two others comprise the lot. But I have many hundreds of Chysis bractescens, Oncidiums of different species, Stanhopeas, Lycastes, Brassias, Brassavolas, Epidendrums, and a lot of purely botanical interest.

"We have here a couple of most interesting plants which nearly always grow in company, both apparently requiring the same conditions, viz., the nidus of a species of ant. These nests are globular, from a foot to two feet in diameter, and are usually formed around a comparatively small limb of a tree. The nests appear to be formed of a composition of earthly matter, and undoubtedly a secretion emitted by the ants. The plants are a species of Coryanthes and a species of Epidendrum; the latter has tall (3 feet),

distichous-leaved stems, the inflorescence terminal, and a thyrsoid mass of magenta-coloured flowers, each about half an inch in size, lasting about a couple of weeks. The Coryanthes I have observed in three varieties or species, one a self-coloured yellow flower, the second similar but with darker coloured dots, and the last with yellow and irregularly-mottled, beef-coloured markings,—remarkable flowers indeed. Now this formicarium seems a necessity, for if the ants are driven away by any means at hand, the rains gradually destroy the nest, and the plants languish, disappearing entirely in a couple of seasons. Attempts to cultivate them here, by attaching them to any suitable tree trunk or branch, always result in failure, the roots of both the Epidendrum and Coryanthes appearing to have no affinity for direct contact with the bark. I have also observed during the rains countless young seedlings appearing on this nidus."

ORCHIDS AT WESTFIELD, WOKING.

THE other day we again had the pleasure of seeing the beautiful series of Paphiopedilum Fairrieanum hybrids in the collection of Francis Wellesley, Esq., Westfield, Woking, and may briefly supplement the notes given at pp. 164-168 of our June issue. Paphiopedilum × Princess (see p. 43) and P. × Baron Schröder are now producing good scapes, and all the Fairrieanum hybrids are in thriving condition. There are five distinct varieties of P. × Niobe, all doing well, and P. × Thalia is one of the most vigorous of the group. P. × Ballantinei has the reputation of being a bad grower, but Mr. Wellesley's plant is perfectly healthy, a pretty clear indication that the cultural conditions are what they ought to be. The plant of P. × Abraham Lincoln was also examined with interest, for it has not yet flowered at Westfield, but the last growth looks as if about to push up a scape. It was noted at page 106. In the same house were numerous flowers of P. barbatum, about ten of the handsome P. × Goweri, P. exul, P. Boxallii, P. × selligerum, P. × Harrisianum superbum, and P. callosum Sanderæ, the latter, it may be added, having been fertilised with niveum pollen. The capsules on P. × Niobe and P. × Arthurianum pulchellum (both crossed with P. × Juno) are apparently changing colour, and the question now is whether they will contain good seed. It is also interesting to add that two more seedlings have appeared on the pot sown with seed of Arthurianum pulchellum crossed with Niobe. The history of the cross was given at page 165.

In the Cattleya house we noted a dozen flowers of the charming little P. niveum, which is a great favourite. There were also flowers of Brassavola Digbyana, Cattleyas Gaskelliana, Mendelii, Warscewiczii, and Leopoldi, with the charming little Lælia × Olivia alba and L. xanthina,

the latter with two scapes of four flowers each. Not much was in flower, but several hybrids were producing good sheaths, and a good many capsules were in evidence.

The seedling house was as full of interest as such structures usually are, and it may be interesting to mention that the open stages are covered with perforated zinc, thus providing a firm foundation for the tiny pots, and at the same time allowing a free circulation of air. P. bellatulum thrives suspended from the roof of the adjacent house, where there is a good plant of P. b. album, and a remarkably vigorous plant of P. × Rolfei. Some good P. Curtisii were in flower, and, in conclusion, we may remark that its hybrid, P. × Sanderiano-Curtisii, is one of the most vigorous growers in the house. It is represented by two divisions of the original plant.

CATASETUM LAMINATUM.

AFTER being almost or quite lost sight of for many years, this remarkable Catasetum has just flowered in the Cambridge Botanic Garden. Mr. Lynch states that the plant was collected by Dr. Gadow, F.R.S., in Mexico. The species was originally described in 1840 (*Ann. Nat. Hist.*, iv., p. 384), from dried specimens collected at Mt. Tuquila, in Mexico, by Hartweg. Soon afterwards it flowered in cultivation, when Lindley figured it (*Sert. Orch.*, t. 38), remarking:—"The only botanists who have found this plant wild were Count Karwinski, whose specimens exist in the Royal Herbarium of Munich, and Mr. Hartweg; in both cases it was observed in the neighbourhood of Oaxaca. By the latter it was sent to the Horticultural Society, who have distributed it extensively. The specimen now represented was the first that flowered in this country, and was drawn in the stove of Messrs. Loddiges." The flowers are represented as very pale green copiously spotted with brown all over. At the same time he mentioned a variety eburneum, which flowered in the garden of the Horticultural Society, in which the lip was of the purest ivory white, eventually changing to cream-colour. This was sent by Hartweg, together with the type, and was afterwards figured (*Bot. Reg.* 1841, t. 5, fig. 4), the figure showing the sepals suffused with purple instead of spotted, but the large knife-like keel—in allusion to which the name was given—is identical in shape in both forms. A figure of the type appears in the *Refugium Botanicum* (ii., t. 137), when Mr. Wilson Saunders remarked:—"I take a particular interest in the species of the genus Catasetum, and I have a very considerable number of species, almost all of which require the following treatment:—When growing they are placed in a warm and damp stove, rather near the light, and with moderate ventilation. When at rest they are kept nearly dry and cool at the same time. They like to be grown in baskets full of

spongy peat and sphagnum, which their peculiar roots will in some species soon cover and present a rounded, interlacing, whitish mass, firm and compact. C. laminatum so treated is a very free-flowering species, and well worth cultivating from the peculiar form of the flowers, which are produced in long pendant spikes. My specimens came from Mexico, and were supplied to me by Mons. Boucard." Mr. Day also flowered it in September, 1866 (*Orch. Drawings*, xi., t. 19, 20), the plant having been purchased at a sale of Mexican Orchids, at Stevens' Rooms, in the previous July. It is strange that the species should have become so rare—I have only once previously seen a living flower—but importations of Mexican Orchids have not been common of recent years. The female flower is still unknown, but might appear at any time if the plant is taken care of.

R. A. ROLFE.

ORCHIDS IN SEASON.

A FINE flower of Bulbophyllum claptonense is sent by Mr. F. W. Moore, Royal Botanic Garden, Glasnevin, to show how distinct it is from B. Lobbii. The ground colour of the flower is deep buff yellow, and the petals are striped with seven deep brown lines, while the lateral sepals are also strongly lined, and on the apical halves also strongly dotted with deep brown. The lip is dotted all over with purple, and the crest deep orange. The petals are nearly six lines broad by thirteen lines long, and the sepals are also broad and not acuminate, hence the flower is very distinct, both in structure and colour.

Several interesting Orchids are sent from the collection of J. J. Neale, Esq., of Penarth, by Mr. Haddon, including a spike of Epidendrum cochleatum, flowers of Cattleya Harrisoniana and C. granulosa, Lælia xanthina, Miltonia spectabilis Moreliana and M. candida, Odontoglossum Schlieperianum and O. Œrstedii, Oncidium Papilio, Masdevallia Reichenbachiana, Pleurothallis pulchella, and Polystachya laxiflora. A large number of botanical species are represented in Mr. Neale's collection, as well as the usual showy kinds.

Flowers of Odontoglossum × Coradinei are sent from the collection of R. I. Measures, Esq., Canbridge Lodge, Camberwell, which have been produced from the top of the bulb, not from the usual position. The plant was purchased as O. crispum, and is said to be a strong one, consisting of twelve bulbs and three leads, and it was only when the flowers were produced that the discrepancy was detected, a pretty common occurence with these crispum hybrids.

A flower of a very richly coloured Cattleya is sent from the collection of R. Ashworth, Esq., Newchurch, near Manchester, by Mr. Pidsley. It is most like C. Warscewiczii in shape, and passed for a form of that species

until the exceptionally dark colour of the lip raised a suspicion of possible hybridity. If a C. × Hardyana form it is a very distinct one, and the point may be left until the plant flowers again.

NOTICE OF BOOK.

Studies in the Family Orchidaceæ. By Oakes Ames, A.M. 4to, pp. 156, with 16 plates. Houghton, Mifflin & Co., Boston and New York.

"THE purpose of the serial, of which this fascicle is the initial number, is to illustrate, from type material when possible, new or recently described Orchid species, and species heretofore inadequately figured; to publish the original descriptions of all species so figured, with additional characterizations, full synonymy, and geographical distribution; to furnish descriptions and descriptive lists of orchidaceous plants, which may prove useful in the study of regional floras; and to communicate the results of critical investigations among special genera."

Thus writes the author, and the work commences with a series of lithographed plates, in black and white, accompanied by descriptions, of the following Orchids:—Acoridium sphacelatum, Rolfe, A. tenellum, Nees et Meyen, Cestichis philippinensis, Ames, C. benguetensis, Ames, C. Elmeri, Ames, C. Merrilli, Ames. Campylocentrum porrectum, Rolfe, Ionopsis utricularioides, Lindl., Corallorhiza Wisteriana, Conrad, Epidendrum Pringlei, Rolfe, E. tampense, Lindl., E. fucatum, Lindl., E. strobiliferum, Rchb. f., Dendrobium Micholitzii, Rolfe, Sauroglossum cranichoides, Ames, Liparis elata var. latifolia, Ridl., Habenaria repens, Nutt., Cyrtopodium punctatum, Lindl., and Dendrophylax Lindenii, Rolfe. Several of these species are here described for the first time, and others have not been previously figured.

Then follows a descriptive list of Orchidaceous plants collected in the Philippine Islands by botanists of the United States Government, and here we note the following new species:— Corysanthes Merrilli, Ames, Acoridium Whitfordii, Rolfe, Ceratostylis philippinensis, Rolfe, Dendrobium acuminatum, Rolfe, Eria Elmeri, Ames, E. graciliscapa, Rolfe, E. philippinensis, Ames, Phreatia luzoniensis, Rolfe, Bulbophyllum bataanense, Ames, B. Copelandii, Ames, B. cuneatum, Rolfe, B. dasypetalum, Rolfe, B. lasioglossum, Rolfe, B. Whitfordii, Rolfe, Trichoglottis bataanensis, Ames, and T. flexuosa, Rolfe.

Thirdly, we find a note on Oncidium variegatum, Swartz, an Oncidium new to the United States, recently discovered in South Florida, accompanied by a wood-cut. Lastly we find papers entitled, "Contributions toward a Monagraph of the American species of Spiranthes," and "A Synopsis of the genus Spiranthes north of Mexico."

The work contains a large amount of original matter, and the plates are accompanied by excellent analytical drawings, and forms an important contribution to Orchidology.

NOTES.

Three meetings of the R. H. S. will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during August, on the 1st, 15th, and 29th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The next meeting of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on August 17th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

An illustration of Cymbidium Lowianum in the Cool Rockery at Shipley Hall, Derby, is given in a recent issue of the *Gardeners' Magazine* (p. 415). The species seems to thrive in such a position, as has more than once been mentioned in our pages when speaking of the Rockwork house at Clare Lawn.

A flower of a very beautiful form of Vanda suavis is sent by M. Th. Pauwels, Meirelbeke, Belgium, in which the spots on the segments are greenish yellow, quite unlike those of the type. It is a case of partial albinism, and we would suggest the name of V. suavis pallida as suitable for it.

We have already mentioned M. Noel Bernard's experiments with Orchid seedlings, and the part played by certain fungi in promoting their growth. The *Gardeners' Chronicle* for July 8th reproduces M. Bernard's figures of a seedling Cattleya grown for seven months in a glass tube, and of Bletia seedlings cultivated both with and without the fungus, the former being the more vigorous. It is said that the needful endophytic fungus is always plentiful in the soil or other surroundings in large Orchid houses.

Certain species of Vanda and of Phalænopsis, however, have not yielded the desired seedlings, but whether it is that the special fungus necessary for these subjects has not been discovered, or whether the conditions under which they are cultivated prevents that fungus from having access to them is a point that has not been decided. With Odontoglossums M. Bernard has had difficulty in obtaining fruits to experiment with. He is of opinion that further careful trials would yield results by which all growers would benefit.

ORCHID PORTRAITS.

CATTLEYA LAWRENCEANA ROSEA SUPERBA.—*Journ. Hort.*, 1905, ii., pp. 74, 75, with fig.

CATTLEYA SCHRŒDERÆ THE BARON.—*Garden*, 1905, i., p. 393, with fig.

CYMBIDIUM HUTTONI.—*Gard. Chron.*, 1905, ii., p. 63, fig. 21, 22; *Gard. Mag.*, 1905, pp. 466, 467, with fig.

CYMBIDIUM SANDERI.—*Garden*, 1905, i., p. 1, t. 1277.

CYPRIPEDIUM × DAISY BARCLAY.—*Gard. Mag.*, 1905, pp. 466, 469, with fig.

CYPRIPEDIUM LAWRENCEANUM.—*Journ. Hort.*, 1905, ii., pp. 50, 51, with fig.

LISTROSTACHYS MONTEIRÆ, Rchb. f.—*Bot. Mag.*, t. 8026.

ODONTOGLOSSUM × AMABILE IXION.—*Journ. Hort.*, 1905, ii., pp. 2, 3, with fig.; *Gard. World*, 1905, p. 583, with fig.

ODONTOGLOSSUM CITROSMUM.—*Journ. Hort.*, 1905, ii., pp. 26, 27, with fig.

ODONTOGLOSSUM CRISPUM (proliferous).—*Gard Chron.*, 1905, ii. p. 67, fig. 24.

ODONTOGLOSSUM CRISPUM PRINCE LEOPOLD.—*Gard. World*, 1905, pp. 529, 531, with fig.

ODONTONIA × LAIRESSEÆ.—*Gard. Mag.*, 1905, pp. 412, 413, with fig.

ONCIDIUM ROBUSTISSIMUM.—*Gard. Chron.*, 1905, ii., p. 45, fig. 19.

VANDA SUAVIS.—*Amer. Gard. Chron.*, i., p. 114, with fig.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

E. R. Polystachya luteola, Hook.

H. H. Polystachya odorata, Lindl., and Acampe sp. not recognised.

H. J. C., Tadcaster. Cattleya granulosa aurea and C. granulosa Schofieldiana. The original C. granulosa was not heavily spotted like the one since called C. Schofieldiana, Rchb. f., but both are considered to be forms of the same species.

H. G. A. Maxillaria punctata.

J. F. S. Miltonia flavescens.

"Fairrieanum." The question turns entirely upon the correctness of the identification. You have seen what has been written upon the subject, and can realise that until a flower of the new importation has been seen the question is not *absolutely* settled. But you will not have long to wait, as a note on another page will show. We *have* seen an offer to supply plants.

Photographs received with thanks. F. W. M., A. de L.

A. de L. This, and several other matters, are unavoidably postponed.

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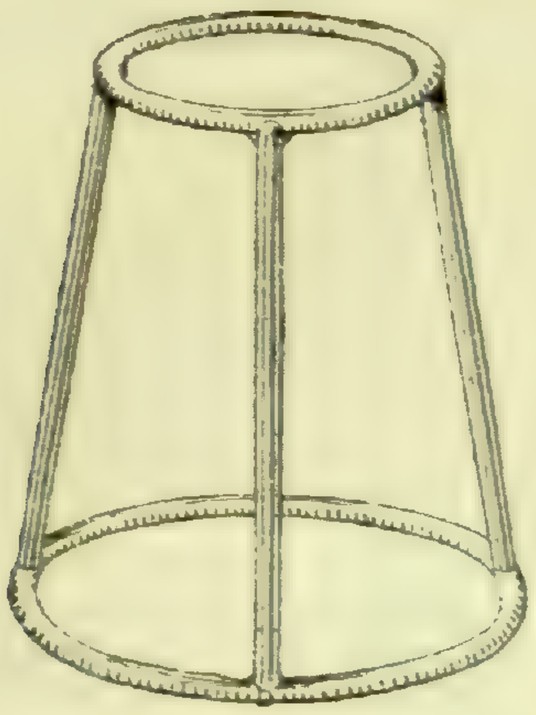

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THE ORCHID REVIEW:

An Illustrated Monthly Journal of Orchidology.

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THE ORCHID REVIEW.

VOL. XIII.] *SEPTEMBER*, 1905. [No. 153.

DIES ORCHIDIANI.

THE unexpected often happens. A few months ago if someone had told me that Paphiopedilum Fairrieanum would be re-introduced in quantity before the year was out I should have been incredulous, and yet the event has come to pass. And, what is more, it is actually in flower at Kew, and I have seen it. I mention this, because when the news was first announced some doubts about its authenticity were expressed. No one could think of Fairrieanum as a plant that would actually grow and thrive, as the new plants were said to be doing. But that is now over, and the news may be regarded as the event of the year. History has repeated itself, and I believe that a good many flowers will be seen before the year is out, so that hybridists will have an opportunity of resuming their experiments. In this connection I may remark that the series of illustrated articles on the species and its hybrids, which recently appeared in these pages, will come in very opportunely, as it shows not only what has been done, but in which direction the most promising crosses may be effected. But there is one thing which I specially hope will receive attention, and that is to find out how to grow the plant, not merely to keep it alive. Plants will now be available for experiment, and should be tried in different departments, noting the results for future use. It is clear that something has been wrong in the past—probably too much "coddling"—but whatever it is we do not want history to repeat itself too literally. We know, now, at all events, that it grows and thrives in a wild state, and we must set about its culture with the determination that it shall grow and thrive in our collections.

Under the heading "How Systematists make Confusion" the *Journal of Horticulture* again alludes to the Moorea question, to which it says it has "already referred in terms of wrath." It does "not cavil at having to drop an old name when a new one is given to a long-known plant, provided there are substantial reasons for the change," and it recognises as "substantial reasons" the "increased botanical knowledge of the structure and

affinities of plants." It also remarks that some horticulturists, who are often fairly experienced botanists, agree that botany as a science is slowly being developed, and that much patient study, observation, comparison, and linking up of plants that have similar characters, into genera, and orders, and cohorts is necessary before anything approaching a stereotyped classification and nomenclature of plants is attained." But the attempt to change a well-known name because of a "puerile rule of priority" is stigmatised as "nonsensical, quite unnecessary, and therefore incomprehensible."

It then proceeds to illustrate its remarks by alluding to the "recent attempt to call the Pampas grass Moorea," which necessitated the renaming of the genus of Orchids bearing the latter name, as Neomoorea. It says that the Pampas Grass was known "for seventy years at least as Gynerium argenteum, until, in 1897, Herr Otto Stapf, of Kew, pointed out the wide differences of habit and structure between the Pampas grass and the true Gynerium saccharoides," the result being that a new name was chosen for the Pampas grass and its allies, namely Cortaderia, "which," it adds, "we are quite willing to adopt." But then "somebody discovers, so late as 1904 or thereabouts, that Dr. Lindley had seen the differences of structure between the Pampas grass and the Arundos, and had suggested the name Moorea," which "was adopted by Lemaire in 1855, but "never became known," being "practically doomed to blush unseen in the pages of a horticultural journal."

It might have gone a little further, and stated that the "somebody" who made the "unfortunate re-discovery" and "dragged to light" the name Moorea, was "Herr Otto Stapf, of Kew," but it does not do so, and so I might as well point out the facts. The paper appeared in the *Gardeners' Chronicle* for December 12th, 1893 (ii., p. 399), where Lemaire's remark is thus pointed out :—"Dr. Lindley was rightly of opinion that it" [the Pampas grass] "differed very considerably from Arundo and Gynerium, . . . and might form a new genus. . . . . We propose the name Moorea for our plant. . . . . Our genus is justly dedicated, as will be seen, to D. Moore, the distinguished botanist, and Director of the Botanic Gardens at Glasnevin, to whom we owe the introduction of this plant into our gardens." And thus the "unfortunate re-discovery" is "dragged to light." The reason why the name was lost is partly attributed to the absence of an alphabetical index of the plant-names mentioned in the volume. But the name is indexed under the heading "Miscellanées," as follows :—"Gynerium argenteum N. ab. E. (*Moorea* Ch. Lem.) 14." The observations in question are offered as a "contribution to the history of a

remarkable grass which has been for many years one of the greatest ornaments of our gardens and parks, and in justice to Lindley," and although the author refrained from resuscitating Lemaire's name, because it would involve the reduction of the other species of Cortaderia, we find them duly set forth, namely "Moorea araucana, M. speciosa, M. rudiuscula, and M. Quila." Lastly, it is remarked that "Mr. Rolfe" had "published a new genus of Orchidaceæ under the name of Moorea."

And here is the sequel. Mr. Rolfe remarked:—"It would appear that . . . Moorea irrorata requires to be re-named, the generic name Moorea being pre-occupied, having been applied to the well-known Pampas grass as long ago as 1855, a fact which has been overlooked until recently. The history of the question has recently been given by Dr. Stapf. . . . The Pampas grass . . . . has recently been separated from Gynerium under the name of Cortaderia, ... but Moorea was applied to the plant over forty years earlier, and therefore is not available for the Orchid genus, which may be amended to Neomoorea" (*Orch. Rev.*, xii., p. 30).

The Editor concludes, with withering scorn, "and so certain systematists justify their existence," and leaves "further comment to his readers," two of whom promptly take up the running, the first with a grumble about fern names, and the second with the grievance that modern systematists have at last recognised Pleione as a genus distinct from Cœlogyne—or is it that they did not do so sooner? for horticulturalists have almost universally refused to follow Lindley in calling them Cœlogyne. This paper is headed "Systematic Confusion," and I hope our systematists will remember when "thay go rakin' up a lot o' anshent 'istory wich ort to be forgotten" that the process is now dignified with the name of "Paul Pryority." However, the Editor is *now* willing to adopt Cortaderia, though on the first two occasions he did not even mention it, but merely protested against a new name for a plant known for so long as Gynerium argenteum. Perhaps by this time he wishes that Herr Otto Stapf had made that curious discovery about Moorea a little earlier. It might have saved a lot of trouble.

But we have other cases of "systematic confusion" on which I should like to hear the Editor's opinion. For example, over 150 years ago a traveller named Osbeck found a very beautiful Orchid in Java, and sent a dried specimen to Linnæus, who named it Epidendrum amabile. Swartz thought it was not an Epidendrum and so called it Cymbidium amabile, and later on Blume pointed out that it was not a Cymbidium, and re-named it Phalænopsis amabilis. Lindley adopted the latter name, and all was well, until Cuming introduced what Lindley thought to be this very plant,

from the Philippines. Later on the real thing came, from Java, and Lindley, instead of seeing his mistake, described it as new, under the name of Phalænopsis grandiflora. Reichenbach pointed out this topsy-turveyism, and said that the new plant must be called P. Aphrodite by botanists, but horticulturists could go on wrongly calling it P. amabilis. And they did. Then another systematist said it was very confusing and troublesome when anyone mentioned Phalænopsis amabilis to have to ask him whether he was a horticulturist or a botanist before knowing what he meant. *Both* plants could not be Phalænopsis amabilis, and the only thing to be done when a mistake of this kind was discovered was to correct it as promptly as possible. And now, just as things are getting about straight again, the old Javan plant is once more christened, as Phalænopsis Rimestadtiana.

It can hardly be said that "substantial reasons" are given for the latest change, and the remark would apply to a good many other names which have been given during recent years, and not always by systematists. However, the Editor sets out with the worthy intention of preventing confusion. Behold how difficult a thing it is! The postman has just brought me my last copy of the *Journal*, containing an account of Phalænopsis violacea and it variety Schrœderiana. The latter, it says, is "here figured," and "has the sepals and petals white, tinged with rose and purple at the base." I always thought the colour was quite different, and the figure, alas! is Dendrobium Phalænopsis.

ARGUS.

THE GENUS PROMENÆA.

THE flowering of the artificial hybrid Promenæa × Crawshayana (described at page 222), and the receipt of flowers, from Messrs. Charlesworth & Co., of the P. Rollissoni, which received a Botanical Certificate from the R.H.S. on August 1st last, serves to call attention to this interesting little genus, which of late years has been united with *Zygopetalum*, and a brief sketch of the species already described may be interesting.

The genus Promenæa was established by Lindley in 1843 (*Bot. Reg.*, xxix., Misc., p. 13) to contain five species then referred to Maxillaria, namely, M. stapelioides, M. xanthina, M. lentiginosa, M. Rollissoni, and M. graminea, all of Lindley, these having been included in Maxillaria when its limits were very loosely defined. In fact, Lindley then described it as "an old genus into which far too much alien blood had been infused." At the same time he also established Scuticaria, Warrea, Paphinia and Lycaste. Four of the species are quite uniform in structure, but the fifth was afterwards removed by Reichenbach, who named it Kœllensteinia graminea. Three others have since been added, but one of them is very

imperfectly known, and probably does not belong to the genus. So far as at present known the genus is confined to Brazil, and all the species are or have been in cultivation.

PROMENÆA STAPELIOIDES, Lindl., was the earliest known species, having been originally described and figured by Link and Otto, about the year 1828, under the name of Cymbidium stapelioides (*Ic. Select. Hort. Bot. Berol.*, p. 111, t. 52), from a plant sent from Rio de Janeiro by Beyrich. In 1832 Lindley transferred it to Maxillaria (*Gen. and Sp., Orch.*, p. 146), and afterwards to Promenæa, as already described. It was figured in 1839 (*Bot. Reg.*, XXV., t. 17), when Lindley remarked that it was a native of the Organ Mountains, where it was collected by Gardner, and that its singular speckled flowers suggested the comparison with a Stapelia. He also added :—" It is now common in collections, where it is at once recognised by its pallid glaucous thin leaves, which look as if suffering under the attack of red spider. It is one of the most easy species to cultivate."

P. ROLLISSONI, Lindl., was the second species known, being described and figured in 1838 under the name of Maxillaria Rollissoni (*Lindl. Bot. Reg.*, XXIV., t. 40). The author described it as follows :—" A curious little species inhabiting the woods of Brazil, whence it was imported by Messrs. Rollissons, with whom it flowered in August, 1837. In many respects it is very like M. stapelioides, and when out of flower the two species may be mistaken for each other ; but the blossoms are strikingly different in colour, and in the form of the curious crest which stretches across the lip from one side to the other." The colour, it should be added, is light yellow with numerous red-brown dots on the lip.

P. XANTHINA appeared in the following year, when it was described by Lindley under the name of Maxillaria xanthina (*Bot. Reg.*, XXV., sub t. 15). The species was found by Descourtilz on the high mountains of Ilha Grande, Brazil, on the side towards the sea, and Gardner afterwards collected it on the Organ Mountains. Descourtilz called it " Epidendre Jonquille," on account of its bright yellow colour. The first evidence I find of its being in cultivation is in 1856, when Reichenbach recorded it as flowering with Messrs. Booth and Son, at Hamburg (*Bonplandia*, 1856. p. 323). P. citrina, Don, figured in the *Orchid Album* (i., t. 7) is synonymous.

P. LENTIGINOSA appeared a few months later, being described by Lindley under the name of Maxillaria lentiginosa (*Bot. Reg.*, XXV., Misc., p. 61), as follows :—"A plant very like Maxillaria stapelioides ; but the sepals are more acute, the purple spots redder, more distinct, and less run into bars : the lip is of the same colour as the petals, and its transverse crest has a square, three-toothed process in the middle. Imported from Brazil by Messrs. Loddiges." It was afterwards lost sight of for many years, but a plant which was exhibited by Messrs. Charlesworth and Co. at the R.H.S.

meeting held on November 1st, 1904, as a supposed natural hybrid, and was recorded under the name of *Zygopetalum* × xanthino-stapelioides (*Gard. Chron.*, 1904, ii., p. 323), proved identical on comparison (see *O.R.*, xii., p. 364; xiii., p. 28). Whether this represents its actual origin is still not quite certain, and the point will be discussed presently.

P. GUTTATA (Rchb. f. in *Bonplandia*, 1856, p. 323) was described from the collection of Messrs. Booth & Sons, of Hamburg, and as P. xanthina was also recorded as in cultivation at the same time it is possible that the two were imported together. The flowers were described as whitish yellow, the base of the column dark purple, and the basal part of the lip striped with purple. What appears to be the same thing flowered with Mr. J. O'Brien, at Harrow-on-the-Hill, in 1891. It flowered in a tuft of P. xanthina, and its existence was not suspected until the flowers appeared. See Rolfe in *Gard. Chron.*, 1891, i., p. 784.

P. MICROPTERA, Rchb. f., was described in 1881 (*Gard. Chron.*, 1881, ii., p. 134), as much in the way of P. xanthina, but with the lateral lobes of the lip very small, and the keels distinctly emarginate in front, and with a peculiar small callus on the disc. The flower is light ochre-coloured, with some narrow purple zones over the disc of the lip, some similar spots over the callus, and some small purple spots at the base of the lip, while the column has red margins. It flowered in the collection of M. d'Hæne, of Ghent. It has smaller flowers and more acuminate sepals and petals than its allies, and is excessively rare, though it flowered at Glasnevin in June, 1900, and is probably still there.

One other species has been described, namely P. florida (Rchb. f. in Hamb. Gartenz., 1863, p. 12). It is described as a plant over a foot high, with scapes twice as long, and flowers as large as those of Eriopsis rutidobulbon. It was compared with Paradisanthus, and apparently does not belong to the genus. It is a native of Brazil, and flowered in the collection of Consul Schiller at Hamburg.

P. × CRAWSHAYANA is an artificial hybrid, raised in the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks, from P. stapelioides ♀ and P. xanthina ♂, which received an Award of Merit from the R.H.S. on May 23rd last. Its history is given at page 222. Until it flowered it was suspected that it would prove identical with some wild form, for there has long been a suspicion that there were natural hybrids in the genus. These hopes, however, were scarcely realised, for the seedling could not be identified with anything yet known, though it was not very dissimilar from P. Rollissoni except in having a larger flower, and the question therefore still remains unsettled.

Of the six forms described above, three are quite clearly distinct species, namely P. stapelioides, P. xanthina, and P. microptera, and the two first

are well known from dried specimens. The three others are rare, namely P. Rollissoni, P. lentiginosa and P. guttata, and are not known in a wild state. There is at least a suspicion that they may have arisen from the intercrossing of P. stapelioides and P. xanthina, for these two species are remarkably diverse in colour, and a batch of seedlings might show a wide range of variation. It is to be hoped that other seedlings will in time be forthcoming, and thus help to clear up the status of the three interesting little plants mentioned.

R. A. ROLFE.

A £1,000 ORCHID.

ROMANCE OF A BULB THAT WAS PURCHASED FOR 1S. 6D.

[The following perhaps deserves a more permanent record than the pages of an evening paper, whence it was culled and sent to us. It apparently relates to a plant which was briefly noted at page 190 of our June issue. The title is retained.—ED.]

Plenty of minor romances are hatched in public sale-rooms. They usually circle round pictures, gems, and the multitudinous objects of virtu. Now, however, of recent years, orchids are becoming more and more prone to furnish sensations, from the mild to the stupendous.

The best-known orchid sales are those conducted in the Strand and Cheapside auction-room of Messrs. Protheroe and Morris. In these rooms one may see the flower in full bloom being "knocked down" for "the price of a racehorse." The season for the sale of the plants in bloom is just drawing to a close, but it endures throughout the year for bulbs. These are bought up in batches, dead-looking things from which little or no good may spring, or, on the other hand, a small fortune.

There is one family or variety of orchid, the Odontoglossum crispum, which is always good for a gamble, because, although the buyer knows his bulb or immature plant to be a crispum, neither he nor anyone else may tell what sort of flower it will produce. According to the colouring and marking of the flowers so will the value of the plant, by some bizarre means comprehensible only to orchid fanciers, be gauged. There are now many of the Odontoglossum crispum family further identified by the latinised names of their fortunate owners or growers.

The Odont : crispum Mossiæ is a remarkable example of these. Mr. Jack Moss, of Wintershill Hall, Bishop's Waltham, a well-known amateur horticulturist, purchased the bulb in June, 1903, at Messrs. Protheroe and Morris's Strand auction rooms. It was one of a "lot," and its price worked out at about 1s. 6d. It has flowered this year, and though not yet "grown up enough" for a big show, it has been pronounced by the best-known Continental and English growers to be one of the finest varieties ever seen.

The Temple Show of last month is said to have contained nothing to approach it in beauty. Exhibited privately to growers at one of the Horticultural Society's fortnightly meetings, it was valued at £600 in its present half-grown state. By next year its value will probably be nearer £1,000. The bulb was brought to England by a Spaniard.

CATTLEYA REX AND ITS HYBRIDS.

THE receipt of two very charming hybrids of Cattleya Rex serves to call attention to the parent species, which has now become very rare in gardens. It was introduced by Messrs. Linden, of Brussels, and described in 1890 (O'Brien in *Gard. Chron.*, 1890, ii., p. 684), though nothing was recorded about its habitat. It was compared with an extraordinarily tall and slender form of C. labiata, having a single oblong leaf about a foot along, and a six-flowered inflorescence, with white sepals tinged with primrose yellow, creamy white petals, and an obscurely three-lobed lip which was a wonderful piece of colouriug, the side lobes being creamy white on the edges, and yellow streaked with red beneath, the interior of the tube and the upper part of the front lobe of the richest crimson, beautifully veined with golden yellow. while the expanded front part was marbled with various shades, from rose to purple, and edged with a pure white fringe. A highly-coloured figure shortly afterwards appeared in *Lindenia* (vi., t. 265), and more recently it has been figured in *Reichenbachia* (ser. 2, ii., p. 55, t. 72), when its habitat was recorded as the western slopes of the Peruvian Andes, where it was discovered by Bungeroth. It is a very beautiful Cattleya, on the whole most allied to C. maxima, but with an approach to C. Dowiana in the colour of the flowers. It received a First-class Certificate from the R.H.S. on July 26th, 1892, when exhibited by Welbore S. Ellis, Esq., of Dorking, and H. M. Pollett, Esq., of Bickley. Practically nothing is known about the conditions under which it grows, and the loss of a good many plants is probably due to its requirements not being properly understood.

C. Rex has now been successfully crossed with three Lælias and eight Cattleyas, and flowers of two of the latter have just reached us. C. × triumphans Maron's var. (Dowiana aurea × Rex), sent by M. Ch. Maron, of Brunoy, is a most beautiful thing, most like the former in shape and size, and having light yellow sepals and petals, while the lip is rather lighter crimson than in C. Dowiana, with a paler margin, and the disc beautifully veined with light yellow. C. × Shakespeare (granulosa × Rex) is a gem from Messrs. Sander & Sons, most like C. granulosa in shape, while the sepals and petals are cream-coloured, the front lobe of the lip rose-purple, and the disc reddish purple.

PAPHIOPEDILUM FAIRRIEANUM.

THE reported re-discovery of Paphiopedilum Fairrieanum has raised a great amount of interest, not unmixed with scepticism, which was, perhaps, excusable considering all the circumstances and the fact that dried flowers were not forthcoming. But the living plants sent to Kew could not be distinguished from authentic materials, and as the country was right there was

Fig. 62. PAPHIOPEDILUM FAIRRIEANUM.

little room for doubt. Their progress has been reported from time to time (pp. 139. 140, 207, 235), and now one of them is in flower, and is reproduced on the present page, from photographs taken by Mr. E. C. Hart. The figure shows the entire plant much reduced in size—the right hand flower being seen from the back—and one of the flowers natural size. The last vestige of doubt about its identity is now removed, and it is interesting

to compare the photograph with the figure reproduced from a painting from one of the original plants, and given at page 12 of the present volume. The plant is quite healthy and vigorous, as will be seen from the photograph, and it may be added that there are five growths, two of which are flowering. The larger plant is a little later, and threw up five scapes, but three of them went off when about half developed, owing to some unexplained cause. The scapes are about a foot long, and very hairy, and the longest leaf is about seven inches long by about one inch broad. Nothing need be said about the shape and markings of the flower, as the photograph speaks for itself, but it may be mentioned that the dorsal sepal measures 1¼ inches broad. The ground colour of the flower is whitish, with a slight suffusion of purple on the upper part of the dorsai sepal, and the veins of the latter are purple, passing into greenish yellow towards the base. The petals are margined with dark purple, and the veins are yellowish green. The lip is greenish, veined and somewhat suffused with dusky brown in front, and the staminode is green, with some dusky reticulations, and a dark purple band across the middle. The hairs on the column and base of the petals are dark purple, while the margins of the latter are ciliate; the dorsal sepal is also somewhat pubescent, and ciliate at the margin.

A sketch of a flower from the Kew plant has just appeared in the *Gardeners' Chronicle* (1905, ii., p. 168, fig. 57), where the following note on the treatment given may be found:—"As imported plants of C. Fairrieanum are now in many collections, it will be useful to record the treatment afforded the Kew plants, under which they have become established and grown with all the vigour of C. insigne. On arrival the plants were placed in pans, the old roots being covered with potsherds to within an inch of the top of the pan. They were then placed in a shady, moist corner of the stove, in a night temperature of 65°, and a day temperature of 75°. Here they soon developed strong, healthy roots from the base of the growths, and commenced to push new leaves and new growths. When fairly well rooted the pans were filled up with a mixture in equal parts of fibry yellow loam, peat, moss, and oak leaves. They rooted freely into this mixture, and made good growths, showing the buds on July 1st, the flower expanding on August 16th. An intermediate temperature is one most likely to suit this species best."

How far this treatment agrees with the natural conditions under which the species grows is uncertain, for nothing has yet been recorded as to its habitat, but we should like to see it tried under the same cool conditions that suit P. insigne, for we strongly suspect that its behaviour in the past has been largely due to wrong or unnatural treatment, and plants will now be available to experiment with. One reason for scepticism has been that the re-introduced plants were much more vigorous than the few little pieces

remaining in cultivation, but the latter are equally unlike those grown half a century ago, and this is evidently due to wrong treatment, though in what repect no one seems to know. We must await the promised information as to the conditions under which it grows in a wild state.

The locality is now approximately known, as the plants recently sent from Calcutta are said to have been collected in the Valley of the Torsa or Amuchu River (Machoo of some authors), in the Chumbi district, Western Bhotan, by G. C. Searight, Esq., an engineer on duty there, though unfortunately there is no clue to the altitude. This valley is in the extreme west of Bhotan, approximately east of Darjeeling, and the locality is probably not far from the 27th parallel of North latitude. The Torsa River, for between thirty and forty miles before leaving the State of Bhotan, flows between rugged mountains having numerous lateral spurs, with intervening valleys, and it is somewhere here that P. Fairrieanum has its secluded home. Further north the country is more elevated, much drier, and the flora of a more temperate character. These facts afford a slight clue to the treatment required. The district is outside the tropics, and the locality further north than that of P. insigne, though the elevation may not be as great. In fact, P. Fairrieanum seems to reach the northern limits of the genus. The locality is probably fairly warm, moist, and shady, with a distinct fall of temperature during the winter months. The indications, therefore, are that a fairly cool or intermediate temperature will be the most suitable, but we hope to have more exact particulars shortly.

It may be interesting to add that a third plant at Kew is throwing up five good scapes, and this is placed in a house about 5° cooler than those previously mentioned.

Lovers of this interesting genus will welcome the re-appearance of the long-lost plant, and in view of the beauty of its hybrids it is safe to predict that its pollen will be in much request. Innumerable seed parents are now available, but among the more promising we should include its own hybrids, together with P. Charlesworthii, which is a nearly allied species. Some interesting developments may now be expected.

A NEW ORCHID DISEASE.

UNDER the name of Hemileia americana, Mr. G. Massee has just described and figured a new parasitic fungus, found on Oncidium Cavendishianum (*Gard. Chron.*, 1905, ii., p. 153, fig. 53). It is pointed out that the genus Hemileia was established about fifty years ago by the late Rev. M. J. Berkeley for the parasite which causes the "Coffee-leaf disease," a parasite that has devastated plantations wherever the cultivation of coffee has been attempted in the Old World. Two or three other species of Hemileia

have since been discovered, all parasitic on the coffee family (Rubiaceæ), and all from tropical or sub-tropical regions of the Old World. Mr. Massee then remarks :—" Quite recently, however, a fungus parasitic on Oncidium Cavendishianum, imported from Guatemala, proved to be a species of Hemileia not previously recorded, and a second specimen of the same fungus has also been sent for determination, growing on the leaf of an Oncidium that had been growing in this country for some time. The fungus forms bright orange, powdery-looking patches of variable size on the under-surface of the leaf; corresponding areas on the upper surface of the leaf are of a sickly yellowish-green colour. There is never any advantage gained by acting the part of an alarmist; nevertheless, remembering the terrible havoc wrought by the Hemileia parasitic on coffee, it is just as well that cultivators of Orchids should be cognisant of the fact that a very close ally of the coffee disease has established itself on Orchids in this country. Prompt destruction of every leaf showing the symptoms indicated above should prevent the pest from spreading and assuming the proportions of an irresistible epidemic."

LEAD LABELS FOR ORCHIDS.

MANY amateurs have experienced the disadvantages of the ordinary wooden label for recording the names of their Orchids. Often when they have been in use for a year or more the pointed end decays, and is easily broken off and lost. If the lower part is left in the pot it will cause fungus to appear, which soon spreads through the compost, and proves injurious to the plant.

I have adopted for some years a simple and useful mode. By cutting lead strips according to the size of the pot, and having a set of letters and numbers, I punch the first letter of each name with a number underneath. In a register I have the full name and corresponding number, with the name of the person or place from where it was obtained, together with the date, all on one page, and on the opposite or blank page, using the same number, I am able to make any remarks concerning the plant, which would be inconvenient to write on a label, even if a durable one. After the impression is made on the lead, which is cut tapering, the pointed end is put inside the pot and bent outwardly over the rim, where it is securely held in position, and is practically indestructible. For baskets and blocks a square piece is cut, with a hole bored to admit a wire passing through for suspending. They are neat in appearance, and anyone with a fair knowledge of Orchids can generally recognise the species or variety by the letters, which would be difficult sometimes if numbers only were employed. It also enables a grower to keep a correct list of worthless varieties or any that may die.—G. in *Journal of Horticulture*.

CALENDAR OF OPERATIONS FOR SEPTEMBER.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THE temperature in all departments should now be reduced by a few degrees to correspond with the reduced temperature outside. Let the thermometer in the East Indian House during bright sunny weather range between 75° to 85°; in dull weather between 70° to 75° will suffice; at night about 70°, and morning about 68°. The temperature for the Intermediate, Cattleya, and Mexican Houses should be 70° to 75° with sun; without sun 65° to 70°; night about 65°, and morning about 60°. Of course, the thermometer will often indicate a higher degree when exposed to the influence of the sun, but it will do no harm; on the contrary, pure sun-heat is at all times to be courted, and is most beneficial when properly tempered by the admission of fresh air. Expose the plants to more light and sunshine by shading only when it is really necessary to prevent scorching, and pay strict attention to the matter of ventilation. Both light and air are indispensible in order to well ripen the newly-grown pseudo-bulbs. Twice a day will now be often enough to perform the operation of damping down if done thoroughly. In the Cool Houses, if properly attended to in the matter of ventilation, damping down and shading, the temperature will be a few degrees below the external air. The cool night air is a great invigorator to plants of the Cool House section, and must not on any account be excluded.

Plants of Odontoglossum crispum and others which have recently flowered, and are again pushing new growth, should be repotted, if necessary, when the new growth is from one to two inches high. The old compost generally becomes exhausted after about two years. It is unwise to disturb these or, indeed, any other Orchids by repotting when the new growth is far advanced, and more especially at this time of year. In this department a good many spikes will now be making their appearance, and will bloom later on in the autumn and winter months. Amongst them may be noted such fine things as Oncidium crispum, O. Forbesii, O. ornithorhynchum, O. tigrinum, and O. varicosum; also Odontoglossum Edwardii, and O. ramossissimum. All should be carefully guarded against injury from the various troublesome pests.

Lælias and Cattleyas newly imported at the end of summer do not establish so readily as those arriving in spring. The latter start away freely and become firmly established during the summer, but those coming at this date are slow to break, and when they do so result in weak and spindly pseudo-bulbs. They therefore require careful handling. If it is impossible to import some species at any other time, we must make the best of them when they come. They should be nicely potted up without delay, and

taken to their respective houses, and the compost should be kept just moist, and also the immediate surroundings, so that shrivelling and an undue loss of vitality is prevented before they start to grow. Those which show signs of making new growth should at once be encouraged to do so, by being given a little extra warmth and moisture, and by placing them at the same time near the roof glass, where they get the maximum amount of light.

Cattleya Dowiana aurea will be represented by a few plants which complete their new pseudo-bulbs early. This most superb species is a great favourite with all Orchidists. It is a species of easy culture, if treated with a reasonable amount of care; otherwise it may collapse at very short notice, it not having such a strong constitution to resist wrong treatment as some others of the genus. It likes a good amount of heat during the growing season, which means that it is best accommodated in pans, so as to admit of its being suspended from the roof of the house, a position well known to afford more heat in summer than the ordinary plant stages. It also likes a plentiful supply of water when growing, but when resting, during the winter, very little indeed is required, and here again we have the advantage of suspending the plant, as it is then less likely to receive water when not required: and this does sometimes happen to plants on the stages, either wilfully or accidentally. When perfectly dry and at rest, the temperature may fall as low as 50°, but it is unwise to let it go lower, unless for extremely short periods, or the germs of disease may be sown, which generally appears soon after the plant commences to grow during the following spring, in the form of a black rot or decay, and when once this makes its appearance, good-bye can pretty safely be said to it.

Cattleya superba, C. Lueddemanniana, and C. Eldorado are all subject to the same black rot, the cause of which I attribute to faulty winter treatment—the plants having been kept either too wet or too cold, and in all probability both. The two last named are flowering at their best just now, and are both handsome kinds and well worth growing, forming, as they do, a substantial backbone to what would otherwise be a sparse show of bloom. They require similar treatment to C. Dowiana. Of other Cattleyas in bloom this month I may mention C. Harrisoniana and the closely allied C. Loddigesii, C. Leopoldi, C. bicolor, C. Grossii, and C. granulosa, all very pretty and useful species, growing well in the general conditions afforded by a well regulated Cattleya house. Nor must we forget the usefulness of such species as Lælia crispa and L. Boothiana, never so free to bloom as L. purpurata, yet exceedingly chaste and pretty. It may be remarked that these two species generally appear to flower best when they have grown somewhat out of bounds.

Vanda cœrulea is another beautiful Orchid for present blooming, and one finding favour with most growers. That it is not more amenable to

good culture is generally regretted, for few growers can boast of keeping it for many years in succession in anything like a happy condition. At Highbury we have some two dozen plants, which are mostly now showing for flower. They are grown suspended in teak cylinders, in nothing but clinkers, and surfaced with moss. They have a position near the roof glass at one end of a corridor, with an intermediate temperature, and plenty of atmospheric moisture is afforded during the growing period, from March to September, with a free admission of air. The baskets are also syringed three or four times a day, with beneficial effect to the plants. After flowering they are kept comparatively dry during winter, until growth commences again in March, in a minimum temperature of 55°.

Vanda Kimballiana is another species now in bloom. This grows well in a basket, with just sufficient material to keep it stable, and suspended in the Cattleya house where air can circulate freely round it. Syringe it pretty freely during growth, and the roots will soon show their appreciation of this method of watering by growing out and hanging down in clusters.

SEEDLING STANHOPEAS.

MR. Paul Wolter, of Magdeburg, Germany, has succeeded in raising and flowering two very interesting hybrid Stanhopeas, which have just been recorded by Dr. Kränzlin. The first is described as :—

STANHOPEA DEVONIENSIS, Lindl., A NATURAL HYBRID ?.—The author remarks :—"I have received from Mr. P. Wolter, Magdeburg, our zealous and skilful hybridist, the flower of a Stanhopea he has raised by crossing S. tigrina, Lindl. × S. insignis, Frost. Unfortunately he does not remember which was the seed-bearing plant, but he is quite sure of the plants themselves and of the correctness of the names. I was highly astonished to find that the hybrid is exactly and in every respect like the Duke of Devonshire's Stanhopea, figured more than sixty years ago by J. Lindley in his *Sertum Orchidaceum*, Plate I." He then goes on to point out that the native country of S. tigrina is undoubtedly Mexico, while S. devoniensis is said to be of Central American origin, but the habitat of S. insignis, though vaguely indicated as "Brazil," he considers as altogether doubtful, and suggests that "it is not impossible that S. insignis is a native of Central America." And he concludes :—"After all, the flower at hand is so exactly similar to the typical S. devoniensis that the most hair-splitting description cannot show any real difference, and we are indebted to Mr. P. Wolter for this unintentional but nevertheless interesting result of his efforts." We hope to see a flower when the plant blooms again, for we cannot avoid a conviction that the intercrossing of S. tigrina and S. insignis could not possibly yield the true S. devoniensis.

STANHOPEA × WOLTERIANA (Kränzl. in *Gard. Chron.*, 1905, ii., p. 102, fig. 35) is another handsome hybrid raised by Mr. Wolter, from S. tigrina ♀ and S. Martiana ♂, the seeds having been sown just four years ago. The figure shows six fine flowers, apparently on two spikes. The author remarks:—"We cannot better describe this new hybrid than by stating that it is like Stanhopea tigrina with the colours of S. oculata var. crocea, or of S. devoniensis." The lip is said to have exactly the form of S. tigrina, but is perhaps somewhat smaller, and the column has the characteristic broad wings of S. tigrina, with the addition of two small wings at the apex. The ground colour of the flower is described as dull straw-yellow or pale orange, with obscure wine-red blotches and spots in more or less regular lines, while on the petals and base of the lip are larger and rather deeper-coloured blotches. The horns also bear similar spots. The fully expanded flowers are said to measure between five and six inches broad, and the lip is two inches long. The flower is very strongly perfumed.

Stanhopeas have not previously received much attention from hybridists, but two other hybrids have been recorded, S. × Spindleriana (oculata × tigrina), in 1890, and S. × bellaerensis (insignis × oculata), six years later.

DISAS.

THE plants I have occupy large pans, and during the summer months they are grown in a frame placed under a north wall. One of the lights happened to have a broken square of glass immediately above one of the Disas, and an unexpected early frost blackened some of the growths, which still show, and will do for some time, the effects of that night. Too much loam is decidedly harmful, and should only be used sparingly, and that fibrous. As the Disas require abundance of water during growth, the potting material should be loose, so that water can pass freely through. Anything approaching stagnation is fatal to them. Sand and manure—I used dried cow excreta—can also be dispensed with, all that is required being good fibrous peat and live sphagnum in equal quantity, with plenty of crocks broken very small.

After potting, the plants soon began to show signs of activity, and during the summer they were placed outside, over a narrow stream in the shady part of the garden. D. cornuta was potted singly in 4in. pots, and grew very strong, throwing up spikes of bloom 16in. high. D. Herschelli, with grass-like leaves, has made tubers as large as the imported ones, and ought to bloom this year. D. graminifolia and D. spathulata have similar foliage, and have formed large new white tubers. D. sagittalis in habit of growth resembles D. grandiflora, but the flowers are white and mauve.—ORCHIDIST in *Journal of Horticulture*.

ODONTOGLOSSUM × PERCULTUM VAR. CYBELE.

AT the Temple Show in 1904 a handsome hybrid Odontoglossum was exhibited by M. Ch. Vuylsteke under the name of O. × percultum, which was recorded as having been derived from O. × Rolfeæ × ardentissimum (*O.R.*, xii., pp. 181, 202). It had broad, acute sepals and petals, heavily blotched with brownish purple on a pale ground. This year M. Vuylsteke exhibited another plant under the name of O. × percultum var. Cybele (*supra*, p. 183), a flower of which is here figured natural size, from a photo-

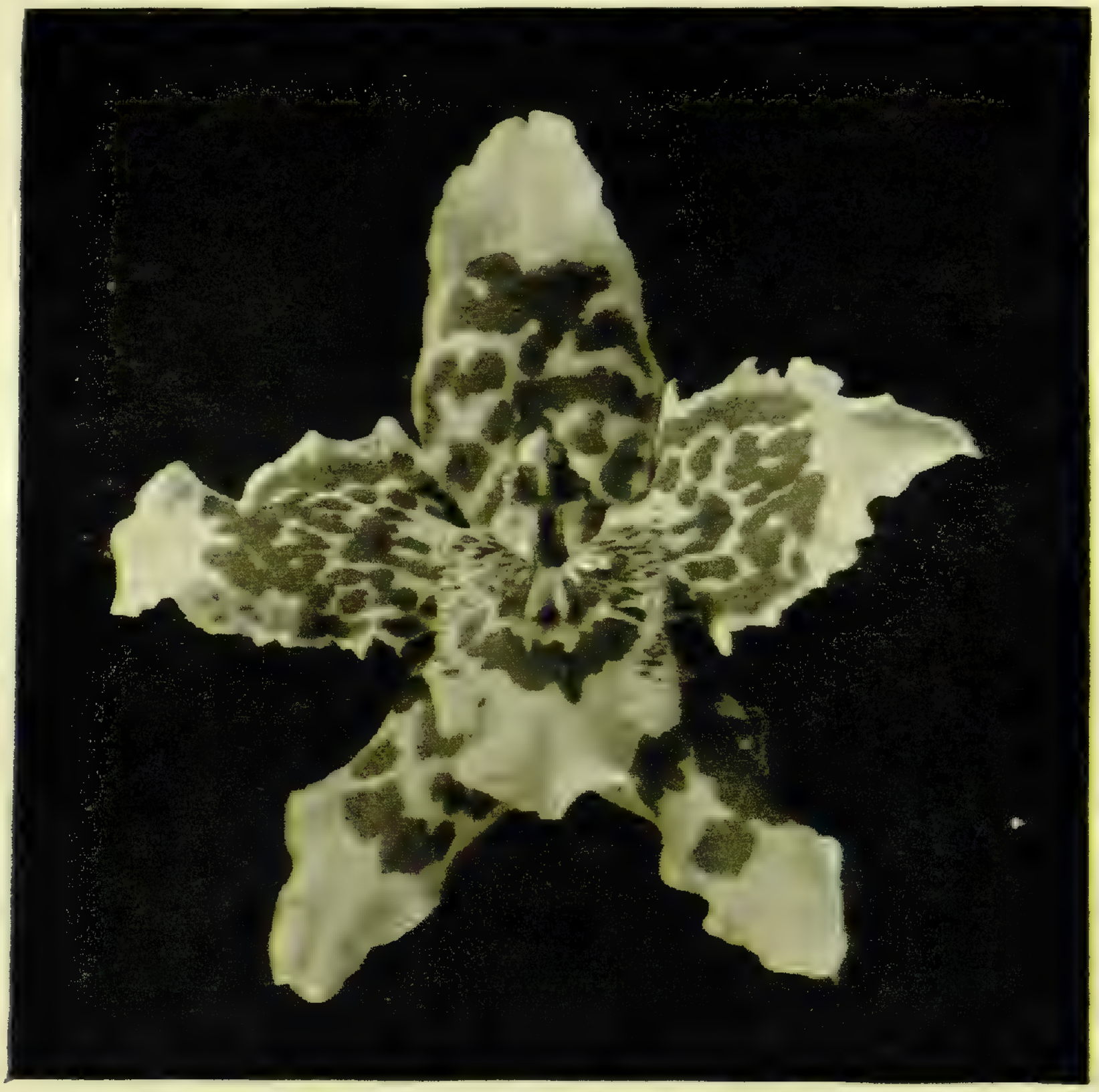

Fig. 63. ODONTOGLOSSUM × PERCULTUM VAR. CYBELE.

graph taken by Mr. E. C. Hart. As will be seen by the figure, it is a handsome form, having broad segments, which are heavily blotched with reddish purple to near the apex, the blotches on the petals being more or less confluent, and those on the sepals fewer and rounder. The lip is broad and round, with a zone of colour in front of the disc, and numerous spots at the base and side. The crest has some small lateral teeth, and the column wings are somewhat denticulate. The O. Harryanum influence is largely retained. M. Vuylsteke must be congratulated on his success in raising so many excellent hybrids of this beautiful genus.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of this Society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on August 1st last, when there was a very good display of Orchids, though the effect of the holiday season was apparent in the greatly reduced number of visitors present.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), sent several interesting Orchids, including Nephelaphyllum pulchrum, Epidendrum ochraceum, the rare little Brazilian Theodora gomezoides, and three others which received special awards. A Cultural Commendation was given to a beautiful specimen of Platyclinis filiformis, bearing over one hundred of its graceful pendulous spikes of yellow flowers. A Botanical Certificate was given to Dendrobium ciliatum annamense, having whitish flowers, and a curiously fringed lip, which is purple at the base; while the interesting little Grobya galeata obtained a similar award.

J. Foster Alcock, Esq., Northchurch, Berkhampstead, sent Cypripedium × Gloriana, a hybrid of unrecorded parentage, having cream white flowers, tinged and veined with purple.

W. A. Bilney, Esq., Fir Grange, Weybridge (gr. Mr. Whitlock), sent Cattleya × Hardyana var. Gwendolen, a handsome form, most like C. Warscewiczii in colour, but with the front of the lip very dark purple crimson.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. Davis), sent inflorescences of a fine Lælio-cattleya × callistoglossa, and the handsome Brassolælia × Digbyano-purpurata var. King Edward VII.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. Day), sent Cattleya Gaskelliana var. Mrs. Goodson, a pretty blush-white form.

F. W. Moore, Esq., Royal Botanic Garden, Glasnevin, sent the pretty little Colax triptera (Rolfe), having light green sepals and petals, the latter slightly spotted with black, and a white lip, marked with pink on the crest.

R. G. Thwaites, Esq., Streatham Hill, (gr. Mr. Black), sent Cattleya × Atalanta ignescens, a large and richly-coloured form.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent the very handsome Lælio-cattleya × Wellsiana magnifica, and Cypripedium × Miss M. Sillen (niveum × Godefroyæ), a charming thing, having the flower pure white, prettily spotted with purple.

Gurney Wilson, Esq., Hayward's Heath, sent a fine form of Cattleya Harrisoniana.

Messrs. Charlesworth & Co., Heaton, Bradford, staged the only group of the meeting, and a very choice one it was, gaining the Award of a Silver-

gilt Flora Medal. Among the more noteworthy plants were the handsome Odontoglossum × crispo-Harryanum, O. × Othello (figured at page 201), a brightly-coloured O. × Harryano-triumphans, and several beautiful forms of O. × Rolfeæ differing considerably in colour, the Heaton variety having clear white flowers richly marked with violet-purple, while other forms had the ground colour suffused with rose, and some with greenish, in which case the markings were browner in shade. Among Lælio-cattleyas the finest was L.-c. × callistoglossa splendens, a very richly-coloured form, while the series of Cattleyas included some good forms of C. × F. W. Wigan, C. × Fabia, C. × Fernand Denis, C. × Vulcan, C. × Wavriniana, C. × Caduceus (granulosa Schofieldiana × Gaskelliana), and C. × Germania. An Award of Merit was given to C. × Germania magnifica, a very fine form, having the sepals and petals cream-white, tinged and veined with purple, and the lip veined with crimson; while the rare little Promenæa Rollissoni gained a Botanical Certificate.

Mr. Otto Beyrodt, Marienfelde, Berlin, showed Phalænopsis amabilis Rimestadtiana.

Messrs. Hugh Low & Co., Bush Hill Park, exhibited the pretty little Lælia × Iona, Cattleya × Mary Gratrix, a curious little unnamed Angræcum, and a large form of Odontoglossum Pescatorei having clusters of violet-purple spots on the lip and lateral sepals.

Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea, sent the handsome Cypripedium × James H. Veitch (Curtisii × Stonei platytænium).

AT the meeting held on August 15th the Orchid exhibits were less numerous, but included one choice group, and two remarkable specimens of Lælio-cattleya × elegans, one of which obtained a Cultural Commendation, and the other the Lindley Medal for excellence of culture.

Captain G. L. Holford, C.I.E., Westonbirt, Tetbury (gr. Mr. Alexander), staged a very fine group, remarkable alike for quality and excellent culture, and gained a Silver-gilt Flora Medal. It included some good plants of Odontoglossum Uroskinneri, O. Harryanum, Cypripedium × Maudiæ, C. × Chapmanii magnificum, two good C. × Lord Derby, Cattleya × Germania magnifica, C. × mollis, Lælia crispa and the Westonbirt var., Lælio-cattleya × bletchleyensis, some good L.-c. × callistoglossa two quite distinct forms of L.-c. × Berthe Fournier, raised in the collection, some handsome forms of L.-c. × elegans, &c. One form of L.-c. × elegans had four superb spikes, two of them bearing ten flowers each, while another, called var. King Edward, had very large and richly coloured flowers. In the centre of the group was a remarkable specimen of this handsome natural hybrid, bearing no fewer than eighteen flower spikes,

and an aggregate of 105 fine flowers. To this the Lindley Medal was awarded in recognition of such exceptional culture. A First-class Certificate was given to L.-c. × Berthe Fournier Westonbirt var. (L.-c. × elegans × C. Dowiana aurea), a remarkably large and richly-coloured form, having bright rose-purple sepals and petals, and a glowing ruby-purple lip veined with yellow at the base.

F. M. Burton, Esq., Highfield, Gainsborough, sent a hybrid Cypripedium somewhat resembling C. × Bryan.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. Davis), sent Cattleya × Wavriniana Fowler's var., having the sepals and petals cream-white, tinged with purple, and the front lobe of the lip rich purple-crimson, marked with yellow on either side of the base; C. × Elvina (Trianæ × Schilleriana), L.-c. × elegans, and a splendid plant of L.-c. × elegans Turneri, bearing twenty-three fine flowers, having light rose-purple sepals and petals, and the front lobe of the lip and tips of the side lobes rich reddish purple. To this a Cultural Commendation was awarded.

Francis Wellesley, Esq., Westfield, Woking, sent the handsome Cattleya Eldorado magnifica, C. × Atalanta Westfield var., and the charming little Cypripedium × Mrs. Herbert Druce, which was figured at p. 359 of our eleventh volume.

Messrs. Hugh Low & Co., Bush Hill Park, sent some nice forms of Odontoglossum Pescatorei, Phalænopsis violacea Low's variety, and a few cut Orchids.

Messrs. James Veitch & Sons, Chelsea, sent Cypripedium × James H. Veitch, and C. × Numa var. nigra (Lawrenceanum × Stonei platytænium), an improvement on the original form.

At the meeting held on August 29th there was a good display of Orchids, and two Medals and four Awards of Merit were given by the Orchid Committee.

C. B. Gabriel, Esq., Easdale, Horsell, Surrey, received an Award of Merit for Miltonia × Cogniauxiæ, a handsome natural hybrid from M. Regnellii and M. spectabilis Moreliana, having pale cream-yellow sepals and petals barred with brown, and a violet purple lip.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. Day), obtained an Award of Merit for a richly marked form of Cypripedium Godefroyæ leucochilum called Goodson's var.

Baron Sir H. Schröder, The Dell, Egham, exhibited Miltonia vexillaria Dell variety, an extremely large form having the lip 3¼ inches broad. The flower was pale pink, with numerous radiating bright purple lines on the yellow disc.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), exhibited Cypripedium concolor Sanderæ and C. × Princess (C. × Mons. Coffinet × Fairrieanum), the latter having spreading, oblong, slightly tessellated leaves, and a roundish, white dorsal sepal, lined with green, and suffused with light purple near the margin; while the petals were slightly falcate, pallid, suffused with light purple at the margin, and with rather long ciliæ —a delicately coloured hybrid.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a rich group, which gained a Silver-gilt Flora Medal, It contained the rare Miltonia Schrœderiana, a good Ancistrochilus Thompsonianus, Rodriguezia pubescens, the richly-coloured *Zygopetalum triste*, the remarkable Bulbophyllum barbigerum, Odontoglossum Hunnewellianum, four beautiful examples of Odontoglossum × Rolfeæ, O. × Hallio-crispum, O. × Wilckeanum, Cypripedium × Bryan, Cattleya × Bowringiano-superba, C. × Parthenia, some brilliant examples of C. × Iris, C. × Atalanta, C. × Germania, the richly-coloured C. × F. W. Wigan var. aurifera, four good examples of Brassocattleya × Digbyano-Warscewiczii, the beautiful white B.-c. × Digbyano-Mossiæ Queen Alexandra, Lælio-cattleya × Violetta, the richly-coloured L.-c. × Dominiana, L.-c. × Clonia, L.-c. × Nysa superba, L.-c. × Issy, &c. An Award of Merit was given to L.-c. × Issy var. cuprea, having the sepals and petals reddish copper in colour, and the lip rich purple with a whitish base.

Messrs. Stanley & Co., Southgate, obtained a Bronze Banksian Medal for a pretty little group, containing about half-a-dozen good Lælio-cattleya × elegans, Miltonia candida, Dendrobium formosum giganteum, Lælia crispa, Odontoglossum Harryanum, Oncidium curtum, some good O. varicosum, *Zygopetalum crinitum* with three racemes, Cattleya bicolor, C. Aclandiæ, and C. Loddigesii.

Messrs. William Bull & Sons, Chelsea, sent three good Cattleya × Atalanta, and Cypripedium Argus Moensii × niveum, bearing a three-flowered scape, the lower flower only being expanded. The colour was white, spotted with purple, and the base of the dorsal sepal green.

Messrs. Sander & Sons, St. Albans, sent a choice little group, including the fine Lælio-cattleya × callistoglossa, L.-c. × vivicans (L.-c. × elegans × C. Eldorado), a fine form of L.-c. × Henry Greenwood, L.-c. × bletchleyensis, L.-c. × Pallas-crispa, showing a strong return to the crispa parent, Cattleya × Prince Edward var. superba, C. × Shakespeare (granulosa × Rex), Odontoglossum bictoniense, and the rare Epidendrum sceptrum.

Messrs. James Veitch & Sons, Chelsea, sent a good Lælio-cattleya × bletchleyensis, L.-c. × Henry Greenwood var. Imperator, a very fine form, and L.-c. × Dominiana langleyensis.

HORTICULTURAL EXHIBITION AT BRUGES.

ORCHIDS formed a prominent feature at a great horticultural exhibition held at Bruges from July 30th to August 15th. The occasion is thus described by the *Gardeners' Chronicle* :—"The present year being the seventy-fifth anniversary of the Independence of Belgium, the Government voted large sums of money to each provincial capital in order that an exhibition of the most important industries of the respective provinces should be held. Horticulture being a special feature of Bruges, the capital of West Flanders, it was decided to hold a national horticultural exhibition, and to invite an international jury to judge the exhibits. Although only a comparatively short time elapsed between the decision being made to hold the show and the opening of the exhibition, the organising committee and the exhibitors are to be congratulated upon the result, for the exhibition was of a very comprehensive and inclusive character, and in the specialities of the neighbourhood unsurpassed. The King of Belgium, himself a devoted patron of horticulture, honoured the exhibition with his presence on Sunday afternoon, and declared it open to the public. The jury and others were invited to meet His Majesty."

Numerous classes were devoted to Orchids, prizes being offered for collections, groups of popular species, and individual specimens, and, besides these, several non-competitive groups were staged, the result being a large and comprehensive display of these beautiful plants. Among British representatives of the jury were Mr. W. Watson, of Kew, and Mr. W. H. Young, of Clare Lawn, East Sheen.

A large £10 Gold Medal was awarded to M. Ch. Vuylsteke, of Loochristi-les-Gand, for choice hybrid Odontoglossums, including a very fine O. × Lawrenceanum, a handsome O. × ardentissimum, O. × bellatulum, O. × Rolfeæ, a lovely flower named O. × exaltum, having pale yellow segments, paler centrally, with a lip suggestive of O. × Harryano-crispum origin; O. × amabile, and O. × percultum, in which the sepals and petals are white, spotted pale brown, like a good O. crispum, and having a broad, flat lip, white at the apex, a many-toothed crest, spotted disc, and delicately spotted margin.

Mr. Lambeau, of Brussels, secured a Gold Medal for a choice selection of Cattleyas, Lælio-cattleyas, Vandas, Miltonias, &c., chief amongst which were plants of C. × Atalanta, C. × St. Gilles (very fine), C. gigas superba (a noble form), C. × Wavriniana, C. guttata, C. × F. W. Wigan, &c.; Lælio-cattleya × Admiral Dewey, L.-c. × Miss Measures, and others; Miltonia vexillaria superba, M. × Cogniauxiæ with nineteen flowers, Cypripedium × Wiertzianum, C. × A. de Lairesse, C. × Frau Ida Brandt, &c. Lower in the scale of merit was placed Mr. Diedrichs, who also exhibited good plants of Lælio-cattleya × Admiral Dewey, L.-c. × F. W.

Wigan and × eximia, Cattleya × Parthenia Prince of Wales, C. × Wavriniana, Lycaste Skinneri alba, &c.

Messrs. Sander & Son's non-competitive group, which was bracketed with the last-mentioned exhibit, contained a fine selection of Cattleya gigas, Cypripedium Curtisii, C. præstans, C. glaucophyllum, Miltonias, Odontoglossums, and many other good and popular kinds.

Coming to the competitive classes, the first to claim notice was the group set up by Messrs. Sander & Sons, which by many who had seen their efforts on former occasions, at home and abroad, was declared to be the most charming group ever staged. The background and side-wings were outlined with noble Palms and Tree-Ferns, twining and rambling over which were numerous spikes of Oncidium macranthum. The body of the group was filled in with glowing Cattleyas gigas, Mendelii, Mossiæ, C. Mossiæ albo-cœrulea, C. M. Reineckiana excelsa, a glorious form, with very broad segments and deeply coloured lip; and C. Rex, now very rare. Centrally were placed good plants of Cypripedium × A. de Lairesse, C. × Lord Derby, C. Parishii (seldom seen); C. insigne Sanderæ, flowering out of season, was admired, also a grand plant of C. × Rolfei superbum. Miltonias of the vexillaria section were well represented by grand forms, such as M. v. The Bride (a pure white form), M. v. gigantea, M. v. chelseensis, M. × Bleuana, &c. Gracefully disposed amongst the bulk were plants of Oncidium pulvinatum, O. carthaginense roseum, O. Gardneri, Vanda cœrulea, Phalænopsis amabilis Rimestadtiana, Dendrobiums, Phalænopsis, &c. Rare things, such as Acineta Humboldtii, Catasetum Bungerothii, Acropera Loddigesii, Lycaste leucantha, and others were also noticed placed to advantage amongst the many showy kinds. At one end was staged a gigantic specimen plant of Brassia verrucosa carrying thirty spikes of its spidery blooms, which was specially selected as worthy of an extra award. Near at hand was a good plant of the white form of Masdevallia Harryana. Messrs. Sander & Sons gained the first prize for the above group "par acclamation," and with congratulations of the jury on their excellent style of arrangement.

In the class for fifty exotic Orchids, M. Vincke Dujardin, of Bruges, was placed first with a good selection of Cattleyas gigas, Gaskelliana, and Mendelii, Cypripedium insigne Sanderæ, C. callosum Sanderæ, C. × Charles Canham, Oncidium carthaginense, O. leucochilum, O. divaricatum, O. Forbesii, Vanda cœrulea, Phalænopsis amabilis Rimestadtiana, Miltonia × Bleuana, and a fine M. vexillaria named "Proserpine," of the radiata section. The same exhibitor secured the first prize for twenty-five Orchids, in which a good plant of Odontoglossum Uro-Skinneri was conspicuous.

In the class for a collection of twenty-five Lælias and Cattleyas, Messrs. Sander & Sons were the successful exhibitors. The selection contained

very fine plants and varieties of L.-c. × callistoglossa, L.-c. × Britannia (L.-c. × Canhamiana × C. gigas), L.-c. × eximia, Brassolælia × Helen, Cattleya Rex, C. Mossiæ Reineckiana, C. × Atalanta, with a spike of about a score of flowers, and others of more or less merit. M. Vincke Dujardin was a good second, with grand plants of C. gigas, C. Gaskelliana, C. Mendelii, C. × Vulcan (a pretty white hybrid between C. Gaskelliana alba × intermedia), C. × Wavriniana, Brassolælia × Helen, Lælio-cattleya × Martinetii, L.-c. × Henry Greenwood, L.-c. × callistoglossa, and other showy kinds.

In a class for ten Lælias and Cattleyas, M. Vincke Dujardin was the only exhibitor, and gained the first prize.

In a class for Vandaceous subjects M. de Vincke Dujardin's was the only group staged, making a very pleasing display with numerous examples of Vanda suavis, V. cœrulea, V. teres, Phalænopsis amabilis Rimestadtiana, and a good form of P. violacea.

In the class for fifty Odontoglossums Messrs. Sander & Sons were an easy first, with numerous forms of O. crispum, O. Pescatorei, O. luteo-purpureum, O. Wilckeanum, O. Uro-Skinneri, O. cristatellum, a grand open-lipped form of O. Harryanum, and a magnificent plant and variety of O. × Rolfeæ. Mr. Vincke Dujardin secured the second prize with O. crispum, &c.

Messrs. Sander & Sons were the only exhibitors in the class for twenty-five Cypripediums, and were awarded the first prize. Among the more noteworthy exhibits were C. × Sanderiano-Curtisii, C. × barbato-Rothschildianum, C. × Phœbe, C. × niveo-callosum, and a very distinct variety of C. bellatulum having white segments delicately spotted with pale rosy-lilac. For a single specimen they gained the first prize with a large plant of Cypripedium × Harrisianum Baron Schröder's var., bearing over fifty flowers.

For a single specimen Phalænopsis, M. Vincke Dujardin was first with a magnificent example of P. amabilis Rimestadtiana, having two spikes carrying four dozen flowers. Messrs. Sander were second with a plant of the same variety.

In a class for Anœctochilus, Messrs. Sander obtained the first prize for a nice pan of A. setaceus.

ANŒCTOCHILI.—"The Anœctochili frequent the densest jungles, where they grow among dead leaves, among which their brown foliage is not at all conspicuous. The natives call them in Malacca '*Bunga Tulis*,' lit. 'Written flowers'—the reticulations on the leaf being supposed to resemble writing."—Ridley in *Journ. Linn. Soc.*, xxxii. p. 407.

PAPHIOPEDILUM × I'ANSONI.

Paphiopedilum × I'Ansoni is a handsome hybrid, derived from P. × Morganiæ ♀ and P. Rothschildianum ♂, which received a First-class Certificate from the Royal Horticultural Society on June 28th, 1898, under the name of Cypripedium × I'Ansoni, the exhibitors being Messrs. Hugh

Fig. 64. PAPHIOPEDILUM × I'ANSONI.

Low & Co. It is represented in the annexed figure, which is reproduced from a photograph sent for this purpose by Mr. Seymour, of Bush Hill Park. It was taken by Mr. G. I'Anson when the Certificate was given, and thus represents the original certificated plant. The photograph is

necessarily greatly reduced. The plant is a good grower, and its sturdy four-flowered inflorescence gives it a noble appearance, the characters of the two handsome parents being well combined. The ground colour of the flower is light cream yellow, and the dorsal sepal is closely striped with purple-brown, and the petals heavily blotched and spotted with the same colour. The somewhat drooping handsomely spotted petals show the combined influence of P. Stonei and P. superbiens, coming through P. × Morganiæ.

PAPHIOPEDILUMS FROM LIVERPOOL.

A FINE series of Paphiopedilum blooms has been sent from the collection of Reginald Young, Esq., Sefton Park, Liverpool (gr. Mr. Poyntz). All are hybrids, several of them raised in the collection, including one interesting novelty now flowering for the first time. Four belong to the racemose section of the genus, namely P. × selligerum (barbatum × philippinense), its variety Peetersianum (obtained from the reverse cross), the handsome P. × Youngianum (philippinense Rœbelenii × superbiens), and P. × Denisianum (superbiens × selligerum). They afford interesting material for comparison, as the two latter are much alike, except that P. × Denisianum has the petals an inch shorter, which is evidently due to the philippinense influence being reduced by half, though the barbatum influence is not correspondingly increased. Another hybrid from P. superbiens is totally different, namely P. × T. B. Haywood, in which P. Druryi was the pollen parent. Its influence, however, is clearly seen in the modified shape and colour, and in numerous small dots on the basal half of the petals. P. × A. R. Smith (callosum × Druryi) bears a general resemblance to the preceding, but has fewer spots at the base of the petals, and more colour generally. In both the Druryi influence preponderates, the dark band in the petals and dorsal sepal being very marked. P. × Kubele grandis (P. × œnanthum superbum × Youngianum) is a very richly-coloured and handsome hybrid, having the dorsal sepal striped and blotched with dark purple-brown, the petals blotched at the base and suffused above with the same colour, and the front of the lip suffused with shining brown, while the base and margin of the lip, together with the staminode, are suffused with yellow. The shape is fairly intermediate. It may be added that five species, namely, P. barbatum, P. villosum, P. insigne, P. superbiens, and P. philippinense, are concerned in its ancestry, and in each case the influence can be traced. Two others are P. Charlesworthii hybrids. P. × General Knox (pollen parent P. superbiens) is a handsome thing, having both the dorsal sepal and the petals suffused with light rosy purple, and the reticulated veins rather darker. The lip is rather browner,

and the staminode ivory white, with a slight yellow tooth, though like P. superbiens in shape. There is no trace of the characteristic superbiens spotting on the petals. P. × Rhodopsis (pollen parent P. × enfieldense) is very similar, but has rather browner petals and lip, with a rose-purple dorsal sepal, which is somewhat reflexed at the sides, while the short broad staminode is suffused with light rose-purple. It is a handsome thing, and, like the preceding, has retained the Charlesworthii character very largely.

PAPHIOPEDILUM × IACCHUS (Dayanum ♀ × Goweri ♂) was raised from seed sown in April, 1898, and the first bloom opened in July, 1905. Flowers are sent from three separate seedlings, which vary slightly, though having the same general character. The dorsal sepal is ovate, acute, white, and rather closely lined with brown, becoming more purple at the sides. The petals are spreading, rather elongated, strongly ciliate, and suffused with purple, with a row of dark spots on each side, and a few smaller ones between. The lip is suffused with purple in front, and bears numerous dark warts on the side lobes, while the broadly hippocrepiform staminode is pale green, with some darker reticulations in the centre. The flowers are fairly intermediate in shape, and one seedling has the petals more spotted than the other two.

ODONTOGLOSSUM EPIDENDROIDES.

THE re-discovery of Cypripédium Fairrieanum recalls the fact that there are other Orchids to which the term "lost" may fairly be applied, and, curiously enough, this includes Odontoglossum epidendroides, the original species, upon which the genus was founded, by Kunth, about 90 years ago (*Humb. and Bonpl. Nov. Gen. et Sp.* i., pp. 350, 351, t. 85). It was discovered by Humboldt and Bonpland in the warmer region near the ancient town of Jaen de Bracamores, in north-eastern Peru, in August 1802. Lindley confused with it a plant collected by Linden in the damp forests of Pamplona, in Columbia, at about 8,500 feet elevation (*Fol. Orch.*, Odont, p 2), a mistake afterwards pointed out by Reichenbach, who re-named Linden's plant Odontoglossum Lindleyanum (*Bonplandia*, 1854, p. 99). The late Consul Lehmann wrote an account of the species in 1898 (*Gard. Chron.*, 1898, i., p. 146), claiming to have re-discovered it about eighteen years before, and sent materials to Reichenbach. He, however, points out some discrepancies between his plant and Kunth's description, which for a long time made him look upon the former with great scepticism, and he also states that the locality is over three hundred miles distant from where Humboldt collected it. A careful study, however, convinced him that his plant really belonged to O. epidendroides, though far superior as a variety. After giving a technical description he concludes as follows:—

"From a floral point of view, O. epidendroides is one of the finest, and deserves a foremost place in any collection of Orchids. The flowers appear in great number, up to fifty and more, on a single branched spike; they are of an elegant shape, great substance, and remarkable in colour, and as if varnished. It is a native of Peru and Ecuador, epiphytal on trees in dense, damp woods on the eastern declivities of the Andes, at an elevation of 800 to 1,200 metres above the sea level, and in its natural habitat the flowers appear in the months of December and January. O. epidendroides will require a place in the temperate house, and treatment similar to that afforded Odontoglossum vexillarium. Though this plant was redetected now eighteen years ago, it has not been introduced into cultivation up to this time. The locality in which it grows can only be reached by travelling on foot for many days—and what travelling! The indescribable path leading to it, through luxuriant primæval forests, and across foaming ravines and rivers, is one of the worst of the many dangerous journeys I have undertaken in the Andes. There are besides no human beings living in the vicinity, and during the entire journey the traveller is compelled to camp out. On my first visit no live plants were collected, the herbarium specimens were all that could be got; and for a second expedition I have not been able to collect the necessary courage."

M. Lehmann does not state the locality of his plant, and as the dried specimen is now locked up in "the grave at Vienna" we are still in doubt what the plant is. R. A. R.

ORCHIDS IN SEASON.

FOUR rare and very interesting Orchids are sent from the collection of the Hon. Walter Rothschild, M.P., Tring Park, by Mr. Warrior. The charming little Lælia monophylla invariably blooms during the warm summer months, and its flowers almost rival those of Sophronitis grandiflora in brilliancy of colouring. It is a native of Jamaica, and its slender stems are quite unlike any other in the genus. Masdevallia burfordiensis is another very rare species in gardens, and is most allied to M. angulata. It is one of the late Consul Lehmann's introductions. Cleisostoma lanatum is remarkable for its very woolly inflorescence, in allusion to which the name was given by Lindley. The flowers are greenish, and borne in a dense, occasionally branched spike. Epidendrum Mantinianum, is a very rare and striking species of the Nanodes group, comparable with E. Medusæ in its large flowers, but markedly different in having a narrower acute lip, destitute of fringes. The flowers are suffused and dotted with light purple on a light green ground. It was described and figured in 1892 (Rolfe in *Ill. Hort.*, xxxix., p. 43, t. 150). Its habitat is not recorded.

Among interesting flowers sent from the collection of J. J. Neale, Esq., of Penarth, by Mr. Haddon, may be mentioned the rare Angræcum Scottianum, Cattleya Eldorado crocata, Oncidium longipes, Paphiopedilum niveum, Masdevallia ionocharis, M. × Heathii and M. Veitchiana, Dendrobium sanguinolentum, Miltonia Regnellii, with a buff-coloured form of the same, and the handsome M. spectabilis, Odontoglossum bictoniense, Epidendrum umbellatum, and a few others. Mr. Neale has quite a representative collection and takes great interest in "botanical" Orchids. After the above was in type we received a very fine light form of Cattleya Gaskelliana of perfect shape, a small Lælia pumila, and a flower of the handsome Oncidium Gardneri.

A fine form of Lælia purpurata is sent from the collection of Mrs. Fielden, Grimston Park, Tadcaster, having pure white sepals and petals, and a rich purple lip, with an irregular white blotch in front. It is near the variety prætexta, and for some reason is flowering rather late in the season.

Flowers of a fine form of Lælio-cattleya × Mylamiana are sent from the collection of J. H. Grogan, Esq., Slaney Park, Baltinglass (gr. Mr. Cooper). It is a new seedling flowering for the first time, its parentage being Lælia crispa ♀ and Cattleya granulosa Schofieldiana ♂. The front lobe of the very deeply three-lobed lip is purple, becoming paler in front, and the rest of the flower white with a tinge of greenish. It should develop into a fine thing.

ORCHIDS AT KEW.

The Kew collection is now particularly interesting, as it contains a good plant of the long-lost Paphiopedilum Fairrieanum, of which nothing further need be said, as its portrait appears on page 265. One wonders how long it is since it was last seen there, and if anyone still living remembers the plant "three feet across," which is formerly said to have been in the collection.

Miltonias are now very effective, and include the rare natural hybrid M. × Cogniauxiæ bicolor with ten racemes, M. × Binoti with five, M. × castanea with nine, together with M. candida, M. Clowesii, M. Regnellii, and M. spectabilis Moreliana. A plant of Rodriguesia secunda bears 18 racemes of coral-red flowers. Two plants of Neobenthamia gracilis have eight heads of blooom, Stenoglottis longifolia is a bank of flower, and includes its white variety alba, while the allied S. fimbriata is also represented, and two plants of Lælio-cattleya × elegans carry six fine inflorescences.

Many other handsome Orchids are now in flower there, including a good

plant of the brilliant little Lælia monophylla, some good L. Dayana, Stanhopea tigrina, Brassia longissima, Cattleyas Grossii and Leopoldi, a good plant of Calanthe × Dominii, the first artificial hybrid, the handsome Pescatorea Klabochorum, two plants of Warscewiczella cochlearis, Phalænopsis Esmeralda, Vanda Kimballiana, V. cœrulea, the remarkable Bulbophyllum grandiflorum, with its smaller and paler ally B. Micholitzii, and numerous other interesting things.

THE HYBRIDIST.

LÆLIO-CATTLEYA × SALUS.—This is a very pretty hybrid between Lælia × crispa ♀ and Cattleya superba ♂, from the collection of Reginald Young, Esq., Sefton Park, Liverpool (gr. Mr. Poyntz). The sepals and petals are white, and most like those of the Lælia parent in shape, while the lip is strongly three-lobed, and thus approaches the pollen parent. The side lobes are white, and strongly infolded, while the front lobe is of a uniform deep violet-purple, with a white margin. It is a very promising hybrid, with strongly contrasted colours, and should develop into a good thing.

LÆLIO-CATTLEYA × VIVICANS.—A brilliant little hybrid was exhibited at the R.H.S. meeting held on August 29th, by Messrs. Sander & Sons, St. Albans, under the name of Lælio-cattleya × vivicans, of which we have received a flower. It is descended from Lælio-cattleya × elegans ♀ and Cattleya Eldorado ♂, and has flowers of intermediate shape, with bright rose-purple sepals and petals, and a three-lobed lip, having the front lobe of a very rich purple-crimson, and a distinct trace of the deep yellow Eldorado blotch in the throat. It is a very promising hybrid.

ORCHIDS IN AUSTRALIA.

OUR little meetings and shows are held in connection with the Horticultural Society here, and at the last Chrysanthemum Show we had a neat and creditable display of about sixty plants in bloom, which attracted more attention than the flower which gives name to the Show, and the remark could be heard on all sides that the Orchid was evidently becoming the popular flower. The exhibit was staged apart from the Chrysanths., and was made up of non-competitive and competitive plants, representing chiefly Cypripediums, Dendrobiums, Cattleyas, and several Lælio-cattleya hybrids. This shows that we are trying to keep up with the times, although I think that so far only one of our growers has taken up the Lælia and Cattleya hybrids, the plants being all robust and vigorous growers.

Sydney.

C. G.

NOTES.

Two meetings of the R.H.S. will be held at the Royal Horticultural Hall. Vincent Square, Westminster, during September, on the 12th and 26th when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The next meeting of the Manchester and North of England Orchid Society Society will be held at the Coal Exchange, Manchester, on September 28th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

A flower of the handsome Cattleya × Lady Ingram (Eldorado × Dowiana) is sent by Mr. F. Ledien, Botanic Garden, Dresden. It is a handsome thing, most like a fine C. Eldorado, having light rose-purple sepals and petals, the throat of the lip deep yellow, and the front margin very deep purple. The plant is still small, and the Dowiana character less prominent than would have been expected.

A good flower of Lælio-cattleya × Marguerite (L.-c. × Schilleriana × C. Warscewiczii) is sent by Mr. Paul Wolter, of Magdeburg-Wilhelmstadt. It has lilac-purple sepals and petals, and the front lobe of the lip dark purple, with a paler throat. It is a seedling plant, flowering for the first time. A second seedling from C. Loddigesii is also sent, of which Epidendrum vitellinum was recorded as the pollen parent, though the size, shape, and pollinia suggest some Lælia. The sepals and petals are bright rose-purple, and the lip has retained a good deal of the Loddigesii character.

Two photographs have been sent by Clement Moore, Esq., of New York, showing his house of Cattleya Warscewiczii (gigas). Mr. Moore remarks that the house is 25 feet by 50 feet, and he has cut over 4,000 blooms from the plants this summer. The photographs were taken two weeks apart, and represent different flowers, but in each case the effect is remarkable, the plants being literally crowded with bloom. A photograph showing a plant of Lælio-cattleya × elegans is also sent, with a very fine inflorescence, on which we believe we can count eleven flowers.

A fine photograph of a plant of Cattleya Gaskelliana is sent from the collection of H. McK. Swombley, Esq., of Madison, N. J., U. S. A., through Mr. A. Dimmock. It was taken by Mr. Herrington, and it is said that about 1,500 blooms of this species were open at the same time. The plant is in an eight-inch basket, and has eight leads and ten spikes, four with five flowers, three with four, and one with three. Mr. Dimmock remarks that the bright, warm, spring days so prevalent there have a marked tendency to produce perfect blooms of great size and texture.

ORCHID PORTRAITS.

BRASSAVOLA DIGBYANA.—*Flora & Sylva*, 1905, pp. 92, 93, with fig.

BULBOPHYLLUM LOBBII COLOSSUM.—*Journ. Hort.*, 1905, ii., p. 171. with fig.

CATTLEYA AMETHYSTOGLOSSA.—*Gard. Chron.*, 1905, ii., p. 105, fig. 37.

CATTLEYA × PITTIÆ.—*Gard. Mag.*, 1905, pp. 515, 517, with fig.

CYPRIPEDIUM BELLATULUM GIGANTEUM.—*Garden*, 1905, ii., p. 138, with fig.

DENDROBIUM DENSIFLORUM.—*Journ. Hort.*, 1905, ii., p. 123, with fig.

EPIDENDRUM STAMFORDIANUM.—*Gard. World*, 1905, p. 681, with fig.

LÆLIO-CATTLEYA × XANTHINA × GASKELLIANA.—*Wien. Ill. Gartenz.*, 1905, p. 265, t. 3.

ODONTOGLOSSUM CRISPUM MUNDYANUM.—*Garden*, 1905, ii., p. 93, with fig.

ODONTOGLOSSUM RAMULOSUM, Lindl.—*Bot. Mag.*, t. 8031.

PACHYSTOMA THOMSONIANUM.—*Journ. Hort.*, 1905, ii., p. 147, with fig.

PHALÆNOPSIS VIOLACEA SCHRŒDERIANA.—*Journ. Hort.*, 1905, ii., p. 195, with fig. (but the figure represents Dendrobium Phalænopsis).

SOPHROLÆLIA × LÆTA ORPETIANA.—*Journ. Hort.*, 1905, ii., p. 99, with fig.

STANHOPEA × WOLTERIANA.—*Gard. Chron.*, 1905, ii., p. 102, fig. 35.

ZYGONISIA × ROLFEANA.—*Flora & Sylva*, 1905, p. 176, with plate.

ZYGOPETALUM × CRAWSHAYANUM.—*Gard. Mag.*, 1905, p. 561, with fig.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

J. D. G. The flower sent is Lælia xanthina, a native of Bahia. How it came to be sold as Cattleya Mossiæ we cannot say, for the two do not grow near each other.

F. W. A. R. The flower sent is Odontoglossum × Adrianæ, a natural hybrid between O. crispum and O. Hunnewellianum, which accounts for it being imported with the former.

H. J. C. A good form of Lælia purpurata, of which a note occurs on another page.

C. W. The flower is evidently a form of Cattleya × Hardyana, though the Dowiana characters are not quite as prominent as in some forms.

Photographs received with thanks. Ch. M. (next month), W. S., C. M. (N. J.), A. D., H.M.S.

We have received from Mr. C. E. West, Higham Hill, London, N.E., a sample of West's Patent Corrugated Raffiatape, which is green in colour, flat and corrugated, and it is claimed that owing to the latter character it will expand with the plant's growth, and not cut the plant. It is wound on reels of 250 yards with holder, and hook to fasten in buttonhole, and thus is in very handy form. We shall test it and report further.

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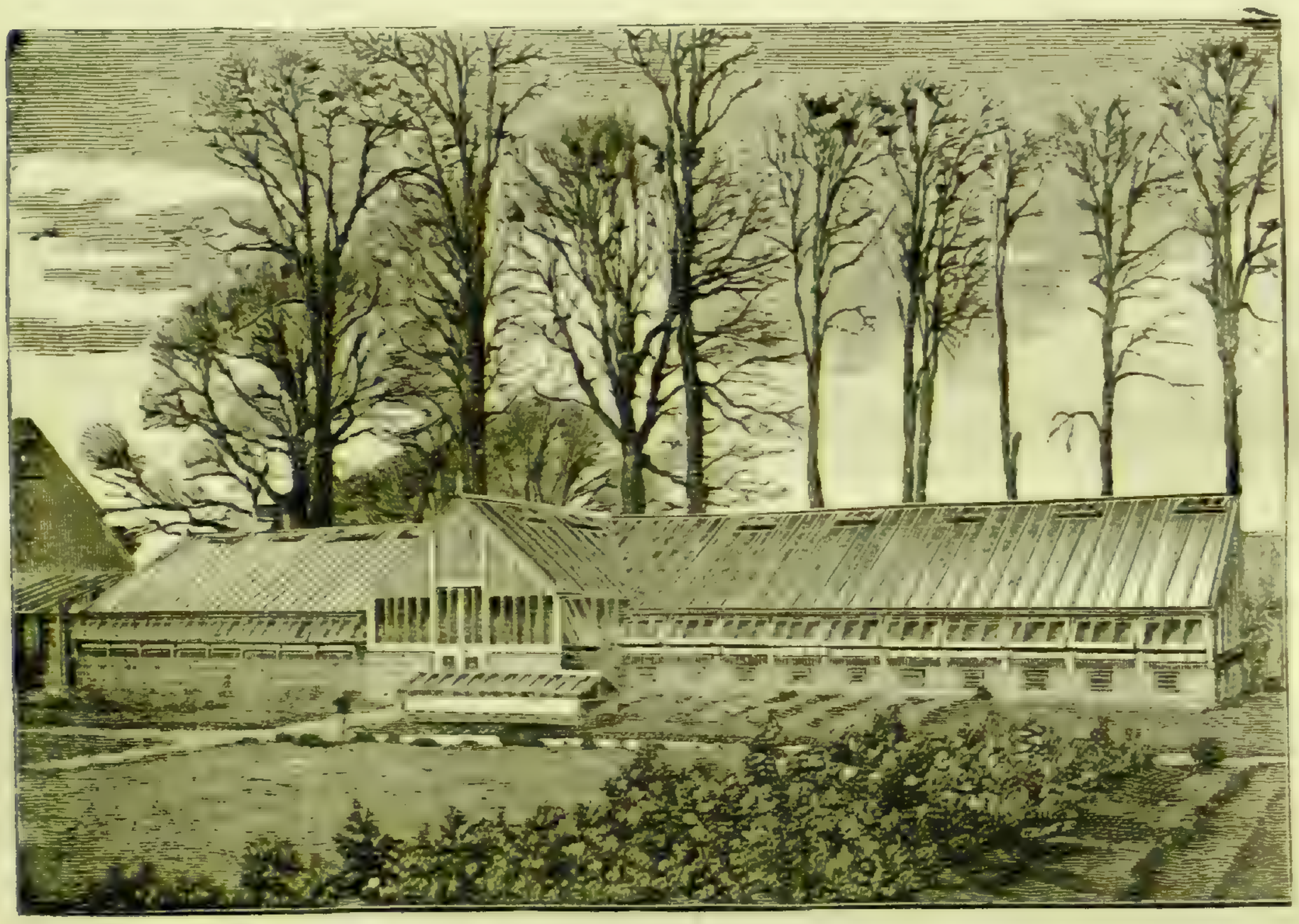

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THE ORCHID REVIEW:

An Illustrated Monthly Journal of Orchidology.

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ROYAL EXOTIC NURSERY,

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THE ORCHID REVIEW.

VOL. XIII.] *OCTOBER*, 1905. [No. 154.

DIES ORCHIDIANI.

THE Royal Horticultural Society, at the suggestion of its Orchid Committee, has issued a scheme which should give a considerable additional interest to its meetings during next year, besides proving of great educational value. It is fully reported on another page, and I hope it will be well supported by exhibitors. I have long thought that the present system leaves something to be desired. Exhibitors are invited to bring miscellaneous groups of Orchids, and arrange them as artistically as possible, in consideration of which medals, &c., will be awarded according to merit. The result is often a brilliant spectacular display, but wanting in variety, the different groups often being too much alike, and I have previously remarked that a group of Cattleyas or Odontoglossums only would be quite a relief. The present scheme is even better, becauses it proposes that certain subjects shall be selected for the specified dates, and all the plants or flowers from different exhibitors shall be staged together—that is so far as this particular competition is concerned. Another point is that many of the species selected have yielded numerous hybrids, and these are to be shown together with their parents, so that comparison may be made between them. Orchids, previously certificated, are eligible, and the Society's paintings of the subjects selected are to be exhibited at the same time. The competition is to be in addition to the usual work of the meetings, and the experiment will be watched with interest.

One or two points strike me in looking down the schedule. For example May 15th seems rather too early for Lælio-cattleya × elegans, the so-called "elegans" then in flower being mostly L.-c. × Schilleriana, which I note is also down for the same date. However, elegans and its hybrids come in again on August 14th, a much more suitable date. Odontoglossum crispum and O. Pescatorei, with their hybrids, have also two dates, namely, April 15th and May 1st, and these should bring together a very interesting display, including both natural and artificial hybrids. Lastly, November 20th seems too late for Cypripedium Fairrieanum, while

its hybrids flower at various seasons. But time will tell, and the very inclusion of Fairrieanum at all would a few months ago have provoked a smile.

Mention of C. Fairrieanum reminds me that two exhibitors each staged a plant in flower at the R.H.S. meeting held on September 12th, and I believe that certain Orchidists then saw living flowers for the first time. And three days later Messrs. Protheroe and Morris sold by auction about one hundred and eighty plants of the long-lost species, which may be described as the event of the month. A good many plants, however, had been sold privately, from which source came those exhibited on the earlier date mentioned.

I need not say much about the sale, as a report appears elsewhere, but I notice the remark in a cutting from a daily paper that "the auctioneer evidently thought that the history of the flower was too well known to need repeating." It then goes on to describe the bidding, and finally remarks:—"In due course of nature the purchasers of these bulbs hope to contemplate a symmetrical flower of a three-tongued shape, coloured a porcelain white, with a tracery of green and purple. It will be interesting to observe whether the Cypripedium Fairrieanum will now decay in public favour, as did the unfortunate Cattleya Labiada (*sic*), which, from the position of a lost Orchid of forty years' standing, sunk, when re-discovered, to the place of a common, almost of a garden, variety." Well, this useful and beautiful autumn-flowering Cattleya has indeed "sunk" from the level of being almost inaccessible to that of being included in every collection of importance. And may C. Fairrieanum be equally unfortunate!

Another paper says:—"When the plant was brought here some fifty years ago it liked our climate and modes of treatment as little as the gorillas at the Zoo, and, like them, it died. But since then Orchid culture . . has progressed very greatly, and the new specimen will get the skilful and careful treatment it deserves." I hope it will. And this reminds me that we have now two quite contradictory accounts of the altitude at which the plant grows. It would be interesting to know how the writers got their information, and which account is correct, as the matter is of importance to cultivators.

The photographic illustration on page 265 came in very timely, and it is fortunate that the plant flowered before the sale, or things might have been different, for I am told that one well-known grower had previously refused to have anything to do with it.

ARGUS.

MR. WARNER'S HYBRID CYPRIPEDES.

VERY early in the history of Orchid hybridisation we find records of a batch of hybrid Cypripediums raised by Mr. Robert Warner, of Broomfield, whose history Reichenbach described as "not known, probably in consequence of a lost pocket-book." Four of them were described by Reichenbach in 1880, and two others followed about two years later, and the opinion was expressed that all had C. venustum as one parent, on account of their marked resemblance to that species. The other parent remained doubtful, though various opinions have been given on the matter. Fortunately five of the six are still known in cultivation, and have been figured, and it may be interesting to place on record the result of a re-comparison with the suggested parents and with allied hybrids which have subsequent appeared in various collections.

C. × MEIRAX (*G.C.*, 1880, ii., p. 524) was described as "the smallest of a lot of fresh hybrids, raised by Mr. Robert Warner, whose history is not known, probably in consequence of a lost pocket-book. No doubt," it continued, "all these things, chloroneurum, politum, melanophthalmum, and the present plant, had C. venustum as one of the parents." He then compared it with C. Fairrieanum and C. purpuratum. It was subsequently figured in the *Orchid Album*, ii., t. 95. Mr. Day, in figuring it (*Coll. Draw.*, xxxix., t. 65) remarked, "it tells its own tale. The absence of all warts on the petals proves that it must be a descendant of C. purpuratum." The evidence of C. venustum is unmistakable, and the features of the plant certainly suggest C. purpuratum as a possible second parent, the dorsal sepal being white lined with green and purple, and the petals spreading, rather broad, and strongly suffused with purple.

C. × CHLORONEURUM (*G.C.*, 1880, ii., p. 525) came next, and Reichenbach could only suggest that C. venustum was one parent, and this is quite obvious from both the flower and foliage. The dorsal sepal is green with darker nerves and a white margin, while the rather large lip, broad petals, and a suffusion of purple in both, suggest C. × Harrisianum as the most likely second parent. It is figured in the *Orchid Album*, i., t. 37. Mr. Day (*Coll. Draw.*, xxxii., t. 69) suggested C. barbatum as a possible second parent, adding, "but that is not so obvious." The characters of the plant suggest C. × Harrisianum as the second parent, which would account for resemblances to both C. barbatum and C. villosum.

C. × POLITUM (*G.C.*, 1880, ii., p. 525) was also recorded as "origin unknown," and Reichenbach made no further suggestions. It was subsequently figured in the *Orchid Album* (i., t. 36), with the remark:—"We should expect that the cross was made between C. barbatum and C. venustum." Mr. Day (*Coll. Draw.*, xliv., t. 17) also remarked:—"This

looks a cross between barbatum and villosum," an opinion which is generally accepted.

C. × MELANOPHTHALMUM (*G.C.*, 1880, ii., p. 525) was described as "in the way of venustum, but with light green leaves. Origin unknown." The *Orchid Album* figure (iii., t. 109) shows a clear resemblance to C. × Harrisianum in the leaves, and Mr. Day (*Coll. Draw.*, xl., t. 57) remarked that one parent seemed to be C. venustum, adding, "and I should think the other must be C. × Harrisianum. Of course, this is only a conjecture on my part, but I feel satisfied it is correct. . . C. × Harrisianum, being a cross between villosum and barbatum, reconciles the appearance of both of these with venustum, if my hypothesis is true, which could not be accounted for in any other way."

C. × DISCOLOR (*G. C.*, 1882, i., p. 218) was described as another of those "already-mentioned hybrids or aberrations which were raised in the collection of Mr. R. Warner." The description shows that the leaf was "glaucous," scarcely showing vestiges of narrow hieroglyphical markings. The flower also seems near the preceding, and we suspect both are from the same origin. It seems to have been completely lost sight of.

C. × WILLIAMSIANUM (*G. C.*, 1882, i., p. 218) completes the series, and was described as "a fine thing, reminding one of C. villosum, and comparable to C. × Harrisianum." Reichenbach added: "It is a curious fact that in plants derived from the same cross there appear such very different individuals. . . . Thus I should not be surprised if all these Warnerian hybrids were produced by fewer crosses than there appear distinct types." The *Orchid Album* (viii., t. 365) states: "It is the result of a cross between C. villosum and C. × Harrisianum, and singularly partakes of the character of both parents in a marked degree." Mr. Day, who had previously figured the plant (*Coll. Draw.*, xliv., t. 29), remarked: "The Professor speaks of C. villosum as one of the parents, but does not suggest the other. I should say C. venustum most decidedly, otherwise the green veins of sepals and petals cannot be accounted for." The resemblance to C. venustum is equally pronounced in the leaves, and this was unmistakably one parent. The characters of C. villosum are easily traced, but we believe that they came through C. × Harrisianum, for the resemblance to that is obvious, both in the flower and foliage, and the plant is markedly different from the forms of C. × Measuresianum, known to be descended from C. venustum and C. villosum.

This concludes the record of Mr. Warner's unfortunate experiments in hybridising Orchids, and from the results we cannot regret that they extended no further. The legend of the "lost pocket-book" need not be taken too seriously, and at all events it is unlikely that any other records exist than those furnished by the hybrids themselves. These suggest that

the parents worked with were C. venustum, C. purpuratum, C. barbatum, and C. × Harrisianum, the first-named being crossed with each of the other three. C. × politum has the characters of a barbato-venustum cross, and may be considered as a form of C. × calophyllum, previously raised by Messrs. Veitch, though not recorded until afterwards. C. × meirax was probably derived from C. venustum and C. purpuratum, a cross which has since yielded C. × Symondsiæ, though we cannot lay hands on a dried flower of the latter for comparison at the present moment. The remaining four hybrids appear to be combinations between C. venustum and C. × Harrisianum, and the following others, which have apparently the same parentage, have since appeared :—C. × plunerum, C. × doliare, C. × lineoligerum, C. × Ianthe, C. × Minerva and C. × Leda. The three latter were definitely recorded as from this cross, and we have seen dried specimens and paintings of two of the others, whose origin was also doubtful. It is unfortunate that so much uncertainty should exist in the case of these early hybrids, and it is quite time that an attempt was made to clear up their origin and history.

ROYAL HORTICULTURAL SOCIETY.

At the suggestion of the Orchid Committee the Council have adopted the following scheme, which they hope will have the effect during the ensuing year of including Orchid growers, both large and small, amateur and professional, to exhibit their already certificated and other choice varieties at the fortnightly shows of the Society. Without in any way wishing to alter or curtail the exhibits as at present shown, which they hope will be continued exactly as they are now, they propose to award additional diplomas to plants of exceptional merit shown in one combined group. This group will be composed of all the exhibits duly entered for this special competition in accordance with the schedule. They hope that by this means groups may be brought together representing to a large extent the varieties of the particular species decided upon for exhibit on each occasion, together with the hybrids having that species as one of their parents. At the same time the Society's paintings of the species and hybrids therefrom to which awards have already been give will be exhibited. They believe that these exhibits will have a great educational value to hybridists, orchidists, and to Fellows generally, and they rely upon all Orchid growers to assist them in making the exhibit as complete as possible, W. Wilks, *Secretary*.

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(3) Cut spikes of flowers may be shown for these Diplomas, but all disbudded spikes will be disqualified.

(4) The paintings bearing on either the species or hybrids therefrom in the Royal Horticultural Society's collection will be exhibited at the same time for comparison.

(5) Seven day's notice must be given of intention to exhibit for these special Diplomas.

(6) Inasmuch as all plants in competition for these Diplomas will be staged together, competitors are particularly requested to specially mark each exhibit so as to avoid mistakes of ownership at the close of the show.

(7) A Sub-Committee of three judges will be appointed by the Chairman of the Orchid Committee to recommend these Diplomas, and they will be granted by the Council only if the exhibit appears to be undoubtedly worthy.

(8) The awards will be named as follows :—

Species—1st Diploma.	Hybrids—1st Diploma.
,, 2nd ,,	,, 2nd ,,

January 9, 1906. Lælia anceps, vars. of type (coloured) ; Calanthe and Calanthe hybrids.

January 23. Oncidium.

February 13. Cypripedium villosum (including Boxallii); C. hybrids ; Lælia anceps, white varieties ; Cattleya Trianæ and C. T. hybrids.

March 6. Dendrobium aureum, D. a. hybrids, D. nobile and hybrids

March 20. Lycaste and L. hybrids.

April 3. Cymbidium and C. hybrids ; Masdevallia and M. hybrids.

Easter Tuesday, April 17. Odontoglossum crispum (spotted, unspotted, and hybrids). O. Pescatorei (spotted, unspotted, and hybrids). O. triumphans and hybrids.

May 1. Cypripedium bellatulum, C. concolor, C. niveum, C. Godefroyæ; hybrids of above four kinds. Odontoglossum crispum and O. Pescatorei (spotted, unspotted, and hybrids). Odontoglossum luteo-purpureum and hybrids.

May 15. Lælia purpurata and hybrids ; Lælio-Cattleya Schilleriana,

L.-C. elegans; hybrids of above two; Miltonia vexillaria and hybrids; Epidendrum radicans hybrids.

June 12. Cypripedium Lawrenceanum and hybrids; Cattleya Mossiæ and hybrids.

July 17. Lælia tenebrosa and hybrids; Phalænopsis and hybrids.

August 14. Lælia elegans and hybrids; Cattleya Warscewiczii (gigas) and hybrids.

September 25. Cypripedium Rothschildianum and hybrids.

October 23. Lælia Dayana and pumila, and hybrids. Cattleya Dowiana and C. Dowiana aurea, and hybrids.

November 6. Sophronitis grandiflora and hybrids. Dendrobium Phalænopsis, Cattleya labiata and hybrids.

November 20. Cypripedium Fairreanum and hybrids.

December 11. Cypripedium Spicerianum and hybrids. Cypripedium insigne and hybrids. Calanthe and hybrids.

THE GENUS COCHLIODA.

A RATHER curious fact came out some time ago respecting the brilliant scarlet-flowered Cochliada Nœtzliana, namely, that the flower has two stigmas. I well remember when hybridising Odontoglossums was coming within the range of practical politics, a well-known hybridist told me that he had made several attempts to cross Cochlioda Nœtzliana with the pollen of Odontoglossum, but could not get a capsule, and he added, "the flower appears not to have a stigma." I remarked that that was impossible, and that the plant must seed freely enough in its native home. A flower was not available for examination at the time, and I attached so little importance to the remark that I forgot a promise made to examine it at the next opportunity. Later on, the presence of capsules in another collection recalled the incident, and, on mentioning it, I was told, "But it has two stigmas." My informant said he had a similar experience, but on examining the flower to ascertain the cause, he noticed two shining areas, one on each side of the column near the apex, and this explained the mystery. Previously the pollen had been pushed into the narrow tube formed by the union of the sides of the column with the lip, where the stigma might be supposed to be situated, hence the failure of the operation. I examined a flower at the next opportunity, when the real structure was immediately apparent. Since then I have been able to examine flowers of C. rosea, C. vulcanica, and C. sanguinea, as well as dried ones of C. densiflora, and find that all have the same structure. Thus the peculiarity is generic, and furnishes an additional character for separating the species from Odontoglossum, under which they were formerly included. I do not think that the character has

been recorded before—at all events I have failed to find it—and thus we are indebted to the hybridists for the discovery. It is a character that would be very easily overlooked, considering the way in which the lip and column are united in this genus, almost as completely as in Epidendrum. It is, however, represented by Fitch in a drawing made for the *Botanical Magazine* (t. 6001), though its significance seems to have been hitherto overlooked.

The union of the lip and column renders the structure rather complex, but the method of pollination can easily be imitated. An insect visiting the flower, and inserting its proboscis down the tube, would carry away the pollinary apparatus attached to its head. The stigmas are concave, with a guiding ridge in front and between them, and when the next flower is visited the pollinia come in contact with this ridge, and diverge laterally and somewhat upward into the two lateral stigmas, and are held there by its viscid surface.

This discovery renders the recently described Cochlioda brasiliensis (see *O. R.*, xii., p. 278) anomalous in structure, as well as in colour and geographical distribution, for it has a single stigma in the usual median position. It must therefore be excluded from the genus, but there is no other in which it can be placed, and the only thing is to form a new one for its reception. I therefore propose to call the plant Binotia brasiliensis, in recognition of the work and discoveries of M. P. Binot among Brazilian Orchids. Binotia belongs to the small group Aspasieæ, containing Aspasia and Cochlioda. The differences between them are well known, and Binotia differs from Cochlioda by the characters just pointed out, while closely resembling it in habit. The plant collected by W. Longman, at first thought to be identical, proves on analysis to be Gomesa laxiflora, Klotzsch.

R. A. ROLFE.

ODONTOGLOSSUM × BELLATULUM.

A VERY pretty form of Odontoglossum × bellatulum is sent from the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables). It is a new seedling, raised from an unspotted O. crispum crossed with a heavily blotched form of O. tripudians, and is the first of the batch to bloom. Mr. Crawshay believes it to be the quickest result yet achieved, the cross being made on July 20th, 1901, the seed sown on March 9th, 1902, while the first flower expanded on August 28th of the present year. There are two bulbs on a small plant. The ground colour is very light yellow, with a few small spots on the petals and lip, and numerous partly confluent chestnut blotches on the sepals. The flower has retained much of the shape and character of the pollen parent, and there is much chestnut colour on the front and sides of the column. Mr. Crawshay must be congratulated on the progress he is making with these beautiful plants.

ODONTOGLOSSUM × FORMOSUM.

The annexed figure represents the beautiful Odontoglossum × formosum, which was exhibited at the last Temple Show by Mr. Ch. Vuylsteke, of Loochristi, Ghent. Its origin is recorded as O. × Rolfeæ × Pescatorei, and thus may be described as one quarter Harryanum and three quarters Pescatorei. The broad, rounded segments and pandurate lip show its relationship to the latter species, while the copious blotching and some modifications of the crest and other details show the influence of O. Harryanum, coming through the seed parent O. × Rolfeæ. The O.

Fig. 65. Odontoglossum × formosum.

Pescatorei parent was presumably a spotted form, but the point is not on record. The ground colour of the flower is white, with traces of faint purple shading, and the blotches are clear light purple, approaching the tint often seen in spotted forms of O. Pescatorei. The photograph of this charming hybrid was taken by Mr. E. C. Hart, from a flower given to us by M. Vuylsteke, and is reproduced natural size. The dorsal sepal measures an inch across, and the other segments are but little narrower, while the blotches on the petals are, as usual, smaller than those on the sepals. It is less heavily blotched than O. × percultum var. Cybele (p. 273, fig. 63), but of better shape.

CALENDAR OF OPERATIONS FOR OCTOBER.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THE following table of temperatures may now be of some assistance as a guide, but it need not be too strictly adhered to. One must be guided principally by the prevailing conditions of the weather, and allow a rise or fall of from 5° to 10°, as the elements dictate.

Cool House, day, 60° ; night, 55° ; morning, 50°. Fire heat here will now again be frequently needed during the night, and also during the day-time, should the weather be very cold and dull. It is better to have a gentle warmth in the pipes, if only for a few hours, so that reasonable ventilation may still go on. Odontoglossums grow none the better, but rather worse, if subjected to a very low winter temperature. Much harm, however, will be done to Odontoglossums if fire heat is employed excessively—they will not stand it. Give enough only to maintain a steady and regular temperature of from 50° to 60°. With ventilation, this will be found to be a most suitable temperature throughout the winter months.

Intermediate, Mexican, or Cattleya Houses :—Day, 65° to 70° ; night, 65° ; morning, 60°.

East Indian House :—Day, 75° ; night, 70° ; morning, 65°.

With regard to damping and the ventilation of the above departments, it may be said that there is probably no other month throughout the year when less water is required for damping down purposes. This arises from various reasons. The great majority of plants have now completed their growth, and others are fast approaching that state ; they therefore require, not only less water direct, but a much less humid atmosphere. Others, too, having no apparent season of rest require less moisture, so that the new growth is somewhat hardened before the rigours of winter set in. To secure the above desirable conditions of ripening, a good deal of fresh air should be admitted. The outside atmosphere is at this season fairly heavily charged with moisture, and therefore does not absorb the same from the interior of the house that it does during the hot summer months.

A small amount only of artificial heat is required, so that the atmosphere within cannot possibly become unduly dry, as it can during the winter, in times of severe frosts, when much heat is required in the pipes, or in summer, during hot, dry weather. Damping down may not be required at all, or, at most, once a day, and the weather must be the sole guide.

Among the Dendrobiums that are now bringing their new growths to maturity, and will require to be taken to a Cooler house to further ripen, will be found the following: D. crassinode, D. Findlayanum, D. aureum, D. Linawianum, D. nobile, D. crystallinum, D. Boxallii, D. tortile, D. × Ainsworthii, D. × Leechianum, D. × Dominianum, as well as a host of

other beautiful hybrids which are now in cultivation, for the proper treatment of which due regard must be had to their parentage, the hybrids requiring exactly the same treatment as the parents. The above-named sorts, when at rest during the winter, delight in a temperature of about 50°. There are also finishing up about this time D. thyrsiflorum, D. densiflorum, D. Farmeri, D. Dalhousianum, D. fimbriatum, D. chrysotoxum, and D. suavissimum, all of which are evergreen, and these kinds must now also be taken to a Cooler house, but it should be noted that they will not stand quite so much bright sunshine now, nor quite such a low temperature during the winter as the foregoing varieties. The temperature of the Cattleya house suits them well.

Most of the D. Wardianums will also now be ready to remove, and this species is one that will stand more cold when at rest than any of the other warm growing kinds, and keeps much better for a temperature of 40° to 45° in cold weather and until the end of February. This species may be had in flower in January, but it is a bad plan to force them thus, and the plants quickly deteriorate, whereas, if not allowed to flower until the middle of March, they would remain strong and healthy. It is quite natural for the new growth to push quickly from the base, as they seldom remain quite dormant for long, but such growths make but little progress during the winter, only becoming thick and sturdy, and evidently enjoy their cool rest at the proper season. The flower buds also soon begin to swell, and this they do, slowly but surely, in the cool dry atmosphere, and quickly expand in March, when a little extra warmth is applied. Owing, no doubt, to the new growth and flower-buds showing so early, the plants are thought to want more heat to hasten them along, and they are straight away taken to a hot and moist growing temperature. This is the reason of this beautiful Dendrobium being too often seen badly flowered and in a dilapidated condition.

There are also others now finishing their pseudobulbs, but on account of their coming from warmer regions are best if allowed always to remain in the warmest house. Amongst these will be D. Parishii, D. Bensoni, D. Lowii, D. aggregatum, D. macrophyllum, D. MacCarthiæ, D. formosum giganteum, and D. Phalænopsis. The two latter species are making a fine display at the present time. When out of flower the water supply should be gradually diminished, giving sufficient only to keep them in a healthy and plump condition.

The quantity of water given to such Orchids as Saccolabiums, Aërides, Angræcums, Vandas, and Phalænopses may now be slightly reduced. They have now partially finished their season's growth, which requires to be ripened to a certain extent, but let it be borne in mind that it is quite easy to permanently injure this class of Orchids by over-exposure to sunshine,

or by sudden or excessive drought at the root. All that is required is to simply give less water at the roots, a less moist atmosphere, and a gentle circulation of air whenever possible.

The deciduous Calanthes are now pushing up flower-spikes, and the application of liquid cow manure may be continued. Cœlogyne cristata will also be greatly assisted by occasional waterings with the same manure. Anguloas are strengthened by its use, as also are the Sobralias, Cymbidiums and Pleiones. The latter, although apparently finished, must still be kept just moist at the root.

Plants of Chysis may be removed when they have finished their new pseudobulbs, and rested in intermediate temperature. Cycnoches, Catasetums, and Mormodes, after flowering, or any that have made their growth without blooming, should now be given a light position in the warm house, in order to mature the new pseudobulbs before the winter. Water should be gradually reduced when the leaves begin to turn yellow, and when they fall off give only sufficient to maintain plumpness. Cyrtopodiums may be rested near to the glass, and kept dry after the bulbs are matured, in order to ensure free flowering. A dry position in the Warm house is preferable. Eulophias grow best if allowed to remain in the Warm house, and kept dry after growth is completed. Zygopetalums are best if allowed to remain in intermediate temperature, both when growing and when at rest. After flowering they enjoy a short rest, but must not be allowed to get very dry.

PAPHIOPEDILUM FAIRRIEANUM.

THE following appears in the issue of *Indian Planting and Gardening* for August 26th last (p. 590) :—

"THE 'LOST ORCHID.'—In another column we reproduce certain remarks from the *Orchid Review* (July and August, 1905) regarding the re-discovery of the 'lost orchid' (*Paphiopedilum—Cypripedium—Fairrieanum*). The Editor of our esteemed contemporary calls upon us to give him the required information 'about the altitude, climate, soil, situation, surrounding vegetation, etc., so that when the plant does arrive, orchidists may be able to treat it in such a way that success will be assured.' The surrounding circumstances connected with the finding of *P. Fairrieanum* are of a peculiar nature; but we do not think we are betraying a secret when we mention that the finder is Mr. G. L. Searight, of Darjiling, who has long been known locally as an enthusiastic amateur gardener. We believe he happened upon the plant at a fairly high elevation—over 7,000 feet above sea level. He was not searching for it but appears to have come upon the plants unexpectedly. He does not seem to have been sure of the identity of the plant, and sought the help of Mr. S. P. Chatterji, in conjunction

with whom the re-discovered plants were to have been placed upon the market, and the reward of £1,000 claimed. But to make quite sure about the identity of the plant Mr. Chatterji referred the plant to the authorities of the Royal Botanic Gardens, Calcutta, who without pronouncing the specimen to be the true *P. Fairrieanum*, were of opinion that there could be very little doubt as to its identity. However, one plant was kept at the gardens, to watch its development and flowering. Meanwhile appeared our article on the subject, and this seems to have induced Mr. Searight to push the investigation himself, and he sent specimens to Kew, where they seem to be making very good progress indeed, and there ought soon to be no doubt as to whether the re-discovered plant is the true *P. Fairricanum* or not. Having separated himself from Mr. Chatterji (who had promised to give us all the necessary particulars about the surrounding conditions of the plant's *habitat*) Mr. Searight is now, we believe, doing all that is necessary at home in England, and we refer our learned *confrere* of the *Orchid Review* to him for further information."

This question of altitude is important in connection with what was written last month (p. 267). An altitude of 7,000 feet is greater than we anticipated, and would indicate an even cooler climate than was suggested. The altitude at which P. insigne grows in the Khasia Hills is recorded as 4,000 to 5,000 feet, while P. venustum in Sikkim is said to ascend up to 4,000 feet. We hope to have the record of altitude confirmed or corrected, and if this should meet the eye of Mr. Searight, we hope he will forward the desired information. Meantime, those who have acquired plants should try some of them in a cool house, or in any structure in which P. insigne does really well. A note respecting the Burford plant on another page is significant in this connection.

Since the above was in type another note has come to hand. "Argutus," in the *Garden* for September 23rd, records one of the re-introduced plants in the collection of R. H. Measures, Esq., The Woodlands, Streatham, as producing three flowers, and makes the following statement (p. 186) as to the habitat, though without saying how he obtained the information :—

"Cypripedium Fairrieanum does not grow on the tops of mountains with alpine plants, but it grows in the niches of the Gneiss rock at about 3,000 to 4,000 feet elevation, fully exposed to the sun and air. When this plant is making its growth the weather is often intensely hot in the daytime, and the atmosphere very heavily laden with moisture at night, and the rains, too, are heavy, drenching everything, but growing in a crevasse of the rock, on its perpendicular face. where the wet rapidly drains off, and owing to the small amount of *débris*., leaves, &c., about the plant, it can never be stag-

nated. After the rainy season comes the resting season, with sunshine, drying winds, and cool nights. Sometimes about daylight for an hour or two the temperature is very low, and at 9,000 feet elevation there are often slight frosts."

The *Florists' Exchange* for September 9th has a photograph entitled "Unpacking Cypripedium Fairrieanum at St. Albans, England," with the following note (p. 293):—"The illustration herewith shows the arrival of the long-lost Cypripedium Fairrieanum at St. Albans, England. Its reintroduction has given us very valuable material for the reproduction of new hybrids. It was found in a country inhabited by tribes of a barbarous character, and thousands of dollars have been spent in endeavouring to penetrate the region where it grows, and it has now been discovered by an English Army officer while surveying in Bhutan. The plants are growing freely and showing flower-spikes. It is nearly fifty years since the first plants arrived in Europe.—*A. Dimmock.*"

A SUCCESSFUL SALE.

Messrs. Protheroe and Morris's Auction Rooms, in Cheapside, may be fairly described as having been the hub of the Orchid-growing world on September 15th, when a consignment of 179 plants received from Calcutta were offered for sale. They were described in the Catalogue as follows:—

"ANOTHER PROPERTY.

RE-DISCOVERY OF THE LONG-LOST

Cypripedium Fairrieanum.

"These Plants have been collected with the utmost difficulty, and the Consignment will be offered.

"For the purpose of proving them to be the true FAIRRIEANUM they, on arrival in this country, were potted up and grown on. A number of them are now showing flower, and consequently there is no possible doubt as to their identity. A recently imported plant is now in flower at Kew, and has proved itself to be a perfect gem of this most valuable Orchid."

There was a very good company present, and the first lot, which was described as a fine plant, with one strong growth and one break, was knocked down for three guineas. This proved to be a fairly average price, for the whole consignment realised about £550. The highest price reached was 21 guineas for a "magnificent specimen plant, 2 very fine extra strong growths, 1 flower spike, 2 small breaks." How would a plant with five flower spikes, like that at Kew, have been described? An "extra fine strong plant, 1 good growth, 1 flower spike, 1 strong break" went for 14 guineas. A "grand strong plant" and a "specially fine strong plant"

fetched 13 guineas each, while an "extra fine plant" went for 11 guineas, and from this the prices descended down to 20 shillings for a "small plant, 1 growth, 1 break," and in one case three small lots were united and sold for £2 15s. We only noticed one plant with two scapes, and this was secured by Mr. Wellesley for 5½ guineas. Considering that a good many plants have been sold privately we think very fair prices were realised. The plants were acquired for a good many collections, and we believe that Mr. G. F. Moore secured fourteen, Mr. Cookson a dozen, while seven were purchased by Mr. Wellesley. It is evident that a large amount of pollen will be available for hybridising purposes during the present autumn, and some interesting hybrids may be expected in a few years time.

ORCHIDS FROM GRIMSTON PARK.

FIVE flowers of Cattleya Loddigesii are sent from the collection of Mrs. T. Fielden, Grimston Park, Tadcaster, by Mr. H. J. Clayton. They are selected from a small importation received from South America two years ago, which, on flowering, show a good deal of variation. All, however, are true C. Loddigesii, not C. Harrisoniana, which we have been told grows in a different locality. All are of good shape, and brightly coloured, and the best is excellent in every respect. It is a very free flowering and handsome Cattleya, and as Mr. Clayton states that several of the plants produced spikes of eleven flowers, the effect can easily be imagined. A later post brought flowers of the true C. Harrisoniana with the distinct light yellow corrugations on the disc, a flower of C. Leopoldi, and an inflorescence of the charming Rodriguesia (Burlingtonia) venusta, a near ally of R. fragrans, and equally fragrant, but having smaller and more numerous, nearly white flowers.

Mr. Clayton writes:—"Although in my fiftieth year as a gardener, I do not claim to be a specialist in Orchid culture. I must say, though, that no owner of a garden who has a stove, or can build one, can get full value therefrom unless he or she grows some Orchids, especially C. Loddigesii in variety and C. labiata. We have been cutting the former since the middle of July, and are now beginning with the latter and hope to continue till nearly Christmas. Seedling Cattleyas and Lælias will do more to popularise Orchid culture in the future than anything else, I think. Burlingtonia venusta is one of what I think may be termed epiphytic alpine Orchids. Small plants in 7-inch baskets, carrying about a dozen sprays each, are very charming to look upon." We quite agree with Mr. Clayton respecting the Cattleyas mentioned, and it is a singular coincidence that these were the two first Cattleyas known, and that he has unconsciously placed them in the order of their appearance.

ORCHIDS FROM LIVERPOOL.

SEVERAL beautiful flowers are sent from the collection of Reginald Young, Esq., Sefton Park, Liverpool (gr. Mr. Poyntz). There are two beautiful forms of Cattleya × Iris, one having rich coppery sepals and petals, and a deep amethyst lip. The other, which may be called var. Youngii, is very distinct, and has a trace of the Dowiana veining all over the lip, while the petals are yellow down the centre shading off to bronze at the apex and margin. The lip is 2¼ inches broad, and the whole flower correspondingly well developed. The contrast of colour is most effective. Other flowers sent are the handsome Cattleya × Germania, one from a spike of five flowers, a form of Oncidium Forbesii having the zone of brown markings round the lip reduced to rather small spots, and three seedling Paphiopedilums, raised in the collection. P. × triumphans Youngii (P. × nitens superbum ♀ × œnanthum superbum ♂), has the centre of the dorsal sepal very dark blackish-purple, from which radiate similar lines towards the white margin. The lip and petals are also dark. P. × Milo Youngii is a seedling from P. insigne Sanderæ crossed with the same pollen parent. The flower is good in shape and colour, the dorsal sepal being closely blotched with dark brown on a greenish-yellow ground, and broadly margined with white.

P. × FAUNUS (purpuratum ♀ × Charlesworthii ♂) is a pretty little hybrid, in which the characters of the two parents are fairly combined. The dorsal sepal is rosy purple, with darker veining and a pale margin, while the petals and lip take most of the purpuratum character. The staminode is most like the latter in shape, but greenish-white in colour. The dorsal sepal reflexes too much to be very effective. The seed was sown in November, 1899, and this is the first flower which has appeared.

ORCHIDS FROM CAMBERWELL.

SEVERAL beautiful hybrids are sent from the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell, by Mr. Smith, who remarks that they are useful in brightening things up during the dull season, when there is not much in flower. They are Lælia-cattleya × epicasta, a beautiful hybrid between L. pumila and C. Warscewiczii, having an intense purple lip with two yellow eyes in the throat, Cattleya × Ariel (Bowringiana × Gaskeliiana), C. × Mantinii (Bowringiana × Dowiana aurea), and a very handsome flower of C. × Mrs. J. W. Whiteley, an improvement on the preceding, in which C. × Hardyana replaces C. Dowiana aurea. There is also a flower of the fine old C. labiata, and what appears to be a form of Lælio-cattleya × bletchleyensis, having rosy sepals and petals, and a rich purple lip with traces of yellow blotches in the throat. This hybrid varies considerably in depth of colour.

CATTLEYA × TRIUMPHANS MARON'S VARIETY.

A SHORT time ago we received from M. Ch. Maron, of Brunoy, France, a photograph and flower of a very handsome Cattleya, called C. × triumphans Maron's variety (C. Dowiana aurea × Rex), and the photograph is here reproduced. The original C. × triumphans was exhibited by Messrs. Sander & Sons at the Holland House Show held on July 12th, 1904, and was recorded as most like an improved form of the latter parent

Fig. 66. CATTLEYA × TRIUMPHANS MARON'S VAR.

(*O.R.*, xii., p. 244). That is hardly descriptive of the present one, as the shape and details of the flower strongly recall C. Dowiana aurea, though the influence of C. Rex is obvious enough in the lip of the living flower. The colour of the sepals and petals is clear light yellow, and the front of the lip lighter than in C. Dowiana aurea, and not so strongly veined with yellow. In fact, it has more of a rosy crimson shade, with a very distinct

light margin, and radiating veins of light yellow on the front lobe and throat of the lip. Nothing need be added as to the shape. It is a very handsome acquisition.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of the R.H.S. was held at the Royal Horticultural Hall, Vincent Square, Westminster, on September 12th, when there was a very good display of Orchids, and no less than ten Certificates of various kinds were given by the Orchid Committee, though only two Medals were awarded to groups. The meeting was especially distinguished by the appearance of flowering examples of the re-introduced Cypripedium Fairrieanum from two different collections.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a very interesting little group of rarities, including the handsome Catasetum pileatum (Bungerothii), Cypripedium × Youngianum superbum, a fine example of Miltonia vexillaria Leopoldi, and the following others to which Certificates were given. Awards of Merit were given to Cycnoches peruvianum, bearing a long pendulous raceme of male flowers, with pale green sepals and petals spotted with brown, and a toothed white lip, and to Stanhopea connata, a rare species having buff-yellow flowers with dark blotches on the base of the lip. A Cultural Commendation was given to Epidendrum Laucheanum, a rare species bearing a pendulous raceme of over a hundred copper-brown flowers, with a yellow lip, and Botanical Certificates were given to Brassavola cucullata, Oncidium Harrisonianum, and Calanthe Textori, the latter a white-flowered species allied to C. veratrifolia. Two forms were shown, one having a yellow and the other an orange-red blotch at the base of the lip.

Norman C. Cookson, Esq., Oakwood, Wylam (gr. Mr. Chapman), showed a plant of the recently introduced Cypripedium Fairrieanum with an expanded flower; C. × Drurio-Rothschildianum, a curious hybrid having yellowish flowers blotched with brown, and the united lower sepals exceeding the dorsal in size; and C. × villoso-Rothschildianum, a fine plant bearing five flowers on two spikes, the colour being yellow with red lines on the sepals and petals, and the lip tinged with red-brown in front, an Award of Merit being given to the latter. A First-class Certificate was gained by Cattleya × Kienastiana Oakwood variety (Dowiana aurea × Lueddemanniana), having large and handsome flowers, with dark rose sepals and petals, and a rich crimson lip veined with yellow.

Major G. L. Holford, C.I.E., C.V.O., Westonbirt, Tetbury (gr. Mr.

Alexander), staged a very choice group, including a plant of Cypripedium Fairrieanum with an expanded flower, the rare Oncidium Jonesianum, Epicattleya × Lilianæ (C. Gaskelliana × E. costaricense), the beautiful Lælio-cattleya × Baroness Schröder (C. Trianæ × L. Jongheana), cut examples of L.-c. × Tunis (L. × cinnabrosa × C. Warscewiczii), having yellowish-white sepals and petals veined with pale lilac, and a very dark crimson lip, Cattleya × Lord Rothschild Westonbirt var., a very handsome form, and C. × Iris magnifica, a very beautiful form, to which an Award of Merit was given. A note appears on another page.

H. S. Goodson, Esq., Fairlawn, West Hill, Putney (gr. Mr. Day), exhibited Cattleya × Minerva, C. × Warnero-Bowringiana, and a fine C. Harrisoniana var. H. S. Goodson, having the sepals and petals rose prettily spotted with purple.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), showed the handsome and richly-coloured Lælio-cattleya × callistoglossa var. fulgens, having a fine claret-purple lip.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), showed Cypripedium × Edith Lucas (Clinkaberryanum × insigne punctatum violaceum).

C. L. Palmer, Esq., Lackham, Lacock, Wilts (gr. Mr. Bannerman), staged a small group of hybrid Cypripediums containing C. × Ashburtonæ expansum, C. × Bryan, C. × Shillianum superbum, C. × villoso-Rothschildianum, and some seedlings unnamed.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, exhibited the pretty hybrid Cypripedium × Grace Pitt (Leeanum virginale × niveum), having the flower white, tinged with rose on the lower part of the dorsal sepal and upper parts of the petals and lip.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), showed four fine and well-grown hybrids, Cattleya × vestalis magnifica (Dowiana aurea × maxima), C. × Patrocinii Westfield variety, Lælio-cattleya × Hermann Holmes superba and Cypripedium × Baron Schröder var. punctata, the last having dark claret-purple dotted lines on the upper sepal.

Messrs. Sander & Sons, St. Albans, staged a choice group, to which a Silver Banksian Medal was given. It contained the richly-coloured Lælio-cattleya × bletchleyensis magnifica, L.-c. × Purple Emperor, a handsome hybrid having lilac sepals and petals, and a broad purple lip, a fine Cattleya × Hardyana, being part of the original plant, certificated in 1885, C. × Lord Rothschild, C. × Pittiana, C. × Iris, and C. × Iris inversa (Dowiana aurea × bicolor), the latter a beautiful form, having broad, bronzy sepals and petals, shading to yellow at the margin, and a rich purple-crimson lip, striped at the base with rose on a white ground, an Award of Merit being given.

Messrs. Hugh Low & Co., Enfield, gained a Silver Banksian Medal for a good group, including Angræcum articulatum, a fine Cattleya × mollis, C. aurea, Cypripedium × Massaianum, Lycaste leucantha, Phalænopsis violacea, P. v. Low's variety, Miltonia Regnellii, M. R. citrina, and two fine M. spectabilis Moreliana.

Messrs. Stanley & Co., Southgate, staged a nice group containing Miltonia candida, several forms of Cattleya bicolor, C. aurea, C. Gaskelliana, C. Harrisiana, C. × Tankervilliæ (bicolor × Rex), Lælio-cattleya × elegans, several fine Oncidium varicosum, a selection of Zygopetalum crinitum, Z. intermedium, Odontoglossum crispum, and O. × Adrianæ.

At the meeting held on September 26th there was again a very fine display, and one magnificent group gained the award of a Gold Medal.

Jeremiah Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), showed a fine form of Lælio-cattleya × Nysa (L. crispa × C. Warscewiczii), obtained from seed sown on June 26th, 1901, the plant thus being little over four years old, two forms of Cattleya × intermedio-Warscewiczii, and Miltonia Regnellii Gatton Park var., the latter a large and attractive variety, having light yellow sepals and petals, marked with purple at the base, and a broad, purple lip.

Major G. L. Holford, C.I.E., C.V.O., Westonbirt, Tetbury (gr. Mr. Alexander), sent Cattleya × Ashtoni La Belle, the handsome Lælio-cattleya × Berthe Fournier, and L.-c. × crispo-Hardyana (L. crispa × C. Hardyana), the latter gaining an Award of Merit. It is a large and handsome flower, having lavender-pink sepals and petals, and a rich purple-crimson lip with a deep yellow throat.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), gained an Award of Merit for Cattleya × Maroni Westfield var. (velutina × Dowiana aurea), a very fine form, having bronzy-yellow sepals and petals, the front lobe of the lip veined with crimson, and the base yellow.

Mrs. Brightwen, The Grove, Stanmore (gr. Mr. Odell), received a Botanical Certificate for the pretty little South African Stenoglottis fimbriata, bearing compact rosettes of spreading dark green leaves heavily blotched with blackish brown, and erect spikes of light purple Orchis-like flowers.

Sir Wm. Marriott, Down House, Blandford (gr. Mr. Denny), sent a flower of Cattleya × Ethel (Rex × Warscewiczii).

Leopold de Rothschild, Esq., Gunnersbury House, Acton (gr. Mr. Hudson), sent Odontoglossum bictoniense roseum, and a fine plant of Dendrobium formosum giganteum "Gunnersbury House variety," carrying a head of very large white flowers, having the disc of the lip yellow. All the segments were very broad, the petals being almost circular.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a magnificent group, consisting principally of hybrids, to which a Gold Medal was awarded. It contained many brilliant Cattleyas, the forms of C. × Chamberlainiana, × Germania, and × Iris being particularly rich. The latter was represented by about forty plants, varying from cream white to yellow and bronze in the sepals and petals, and from rose to deep purple-crimson in the lips, and forming a remarkable series. Other Cattleyas were C. × Adula (bicolor × Hardyana), C. × F. W. Wigan, C. × Mrs. Pitt, C. × Elvina, C. Harrisoniana alba, Lælio-cattleya × Alcyone (L. flava × C. Schilleriana), L.-c. × luminosa, × Gottoiana, × callistoglossa, × Dominiana, and others, Brassolælia × White Lady, and other Brassavola Digbyana crosses, Odontoglossum crispum and its variety Lehmanni, O. × Rolfeæ, Miltonia Schrœderiana and others, Oncidium incurvum and O. i. album, Ancistrochilus Thomsoni var. Gentilii, and many other beautiful Orchids. A First-class Certificate was given to Cattleya × Iris His Majesty, a large and brilliant form, having broad fawn-yellow sepals and petals, the latter tinged with rose on the margin, and the lip broad, and deep reddish-crimson, shaded with orange. and the side lobes yellow, while Lælio-cattleya luminosa Rosita, having yellow sepals and petals, the latter marbled with rose, and a dark purple lip veined with yellow at the base, gained an Award of Merit.

Messrs. Sander & Sons, St. Albans, staged a choice group, to which a Silver Banksian Medal was given. It contained many good Lælio-cattleya, including forms of L.-c. × bletchleyensis, L.-c. × Canhamiana, L.-c. × Antigone, L.-c. × The Pearl, L.-c. × Herga (C. Gaskelliana × L.-c. × elegans, L.-c. × Endymion (C. Gaskelliana × L. tenebrosa), the rare Cattleya elongata, C. × Pittiana, C. Gaskelliana Princess, the handsome Cattleya × Iris inversa, Cirrhopetalum refractum, Angræcum Ellisii, the pretty little Hemipilia calophylla, with a prettily blotched leaf and a spike of flowers with a violet-purple lip, the handsome Cypripedium × Annie Measures, and C. O'Brienianum.

Messrs. Stanley & Co., Southgate, also received a Silver Banksian Medal for an interesting group, containing some good Cattleya Loddigesii and C. labiata, C. bicolor, C. Aclandiæ, Miltonia × castanea Southgate var., a natural hybrid from M. Regnellii and M. Clowesii, and most like an enlarged form of the latter, Epidendrum nocturnum, the rare Odontoglossum × Duvivierianum, a natural hybrid between O. maculatum and O. apterum, O. grande, O. Harryanum, some good O. crispum, Dendrobium formosum, and other good things.

Mr. H. A. Tracy, Twickenham, sent Cypripedium × Herbert Goodson (Sanderianum × Youngianum), a fine hybrid bearing a spike of three flowers, with a greenish-yellow dorsal sepal, lined with rows of dark brown

dots, and elongated drooping whitish petals, tinged with rose and spotted with brown, and C. purpuratum Tracy's var., the latter a fine, dark form which received an Award of Merit.

Messrs. Hugh Low & Co., Enfield, staged a nice group containing Cœlogyne speciosa, Spathoglottis aurea, Cattleya Dowiana, C. Loddigesii alba, the dwarf Oncidium Harrisonianum, O. oblongatum, Miltonia candida grandiflora, Odontoglossum grande, Cypripedium × Ajax, C. × Pollettianum superbum, Goodyera Rollisoni with handsome bronze and yellow leaves, and other plants.

ROYALE LINNEENNE DE BRUXELLES.

THE first of the monthly meetings organised by the Royal Linnean Society of Brussels was, according to the *Gardeners' Chronicle*, held on August 20th last, in the State Botanical Garden, and was a great success. Out of one hundred and twenty-three plants exhibited for certificates, no fewer than fifty-seven were Orchids.

The Orchid Committee consisted of the Marquis de Wavrin, Chairman, and Messrs. Ch. Pynaert, Secretary, Pauwels, Praet, Hye, Putzeys, Janssens, Pourbaix, De Bièvre, Vuylsteke, Closson, De Smet-Duvivier, and De Langhe-Vervaene.

The two gems of the show were Cattleya × Pittiana splendens, exhibited by M. Lambeau, of Brussels, and Cypripedium × Maudiæ, by M. Stepman, of the same place, a First-class Certificate being awarded in each case.

Certificates of Merit for flowering, culture, or excellence of variety were given to Cypripedium × Schillianum, C. Charlesworthii × callosum, C. Charlesworthii × tonsum, C. × Gowerianum superbum, C. × The Hendre, C. × vexillarium, C. glaucophyllum, C. × Lubbersii, and Cattleya Loddigesii, exhibited by M. M. Duchesne, Lanthoine & Co., Watermael; to Cattleya × Hardyana, from M. Verdonck, Ghent; to Cypripedium × Kimballianum, from M. Pauwels, Ghent; to Cattleya × Goossensiana, from M. de Bièvre, Laeken; to C. Trianæ var. Mdle. Rita Claes and C. T. Backhouseana, var. Fl. Claes, from M. Claes, Brussels; to Vanda Batemani, V. tricolor var. tenebrosa, and Cypripedium barbatum var. bruxellense, from M. Draps, Laeken; to Cypripedium × beechense and Cattleya Gaskelliana var. formosa, from M. Praet, Ghent; to Cypripedium × Dr. Klinge Doorenboos, C. insigne Chantinii album, and C. × Massaianum, from M. M. Janssens and Putzeys, Antwerp; to Cattleya × Vinckxiana, from M. Dietrich, Anderghem; to Cypripedium × Gowerianum superbum, C. × Gravesiæ, C. × A. de Lairesse, and Vanda cœrulea rotundifolia, from M. Lambeau, Brussels; and to Cypripedium præstans, from M. Stepman, Brussels.

Botanical Certificates were awarded to Megaclinium Arnoldianum, De

Wild. (Congo), from the Brussels Botanic Garden ; and Maxillaria pallidiflora, from M. Van de Putte, Ghent.

Honorary Mentions were awarded to Cattleya gigas, from M. Praet, Ghent: to Cypripedium × fastuosum, from M. Stepman ; to Cattleya × Hardyana, C. × Pittiana, and to L.-c. × Martinetii, from M. Dietrich ; to Cypripedium × gigas Corndeanii in variety, C. × Wiertzianum, Cattleya × Pittiana, and Miltonia × Cogniauxiæ var. superba, from M. Lambeau.

ORCHIDS IN SEASON.

Several very handsome Orchids are sent from the collection of Capt. G. L. Holford, C.I.E., Westonbirt, Tetbury, by Mr. Alexander. There are four distinct forms of Cattleya × Iris, three of them having different shades of coppery-bronze in the sepals and petals, while the fourth is suffused with light rose. The lips are various shades of amethyst-purple, and the side lobes reduced to small auricles. The combination of C. bicolor with C. Dowiana has proved particularly effective, and the shades of old gold and bronze are not met with in many others. We consider it the most brilliant of the C. bicolor hybrids. A later post brought a flower of C. × Iris magnifica, which received an Award of Merit from the R.H.S. on September 10th. The sepals and petals are bronzy-brown, the latter shading off to light yellow at the margin, while the broad lip is of a nearly uniform rich amethyst-purple. A flower of the handsome Paphiopedilum × Chapmanii magnificum is particularly well developed, the petals measuring 1¼ inches across, and the dorsal sepal nearly 2¼ inches, while the colouring is very rich. The remaining flowers are the distinct Epicattleya × Lilianæ, the handsome Cattleya × Lord Rothschild Westonbirt var., raised in the collection from C. Gaskelliana × Dowiana aurea, and two novelties which are described on another page. They are fine examples of good culture.

A few rare and very interesting botanical Orchids are sent from the collection of the Hon. Walter Rothschild, M.P., Tring Park, by Mr. Warrior, namely, Cryptophoranthus Lehmanni, an ally of C. Dayanus, Masdevallia Vespertilio and Burbidgeana, and the remarkable B. longisepalum (Rolfe), a New Guinea species formerly confused with B. grandiflorum.

Cattleya Eldorado delicata is a charming variety with light blush pink, very fragrant flowers, sent from the collection of J. H. Grogan, Esq., Slaney Park, Baltinglass (gr. Mr. Cooper). C. × Clytie (Bowringiana × velutina) is from a small seedling flowering for the first time. Lastly must be mentioned a curious "false hybrid," obtained by crossing Zygopetalum Mackayi with the pollen of Cymbidium giganteum, but the influence of the pollen parent, once more, cannot be traced.

A spike of Odontoglossum Pescatorei is sent from the collection of G. Hamilton-Smith, Esq., Muswell Road, London, N., by Mr. Coningsby, having only two of the six flowers normal. The apical flower is twin, having five sepals, three petals, and two lips placed side by side, with the two columns confluent. The fourth from the top is also twin, but every organ is double, and only the adjacent pair of lateral sepals are united back to back, the pedicels, however, being completely confluent. The next flower above this has one additional sepal, petal, and column wing, with a second imperfect anther, while the lower flower has one petal missing, and the lateral sepals half confluent.

A flower of the beautiful Lælio-cattleya × exoniensis, the first Lælio-cattleya artificially raised, is sent from the collection of E. F. Clark, Esq., Chamonix, Teignmouth.

CATTLEYA × KRAMERIANA AND C. × SORORIA.

AN interesting Cattleya has just been figured by M. Goossens under the name of C. × Krameriana, Rchb. f. (*Dict. Icon. des Orch.*, Cat. hyb.. t. 32), but, unfortunately, it is not that plant, of which an authentic flower from M. Kramer is preserved at Kew. The latter is universally regarded as a natural hybrid between C. intermedia and C. Forbesii, and indeed is indistinguishable from a hybrid subsequently raised by Messrs. Sander between the same two species (*O.R.*, i., p. 2), so that the matter may be regarded as proved. It is also believed to be identical with the earlier C. × Isabella, Rchb. f., though the latter is only known from description. It may also be added that C. × fimbriata, Bleu, is identical with C. × Krameriana, an interesting point, as its parentage has been somewhat doubtful.

The plant figured by M. Goossens is from the collection of Baron von Fürstenberg, but nothing is stated respecting its history. It has, however, small auriculate side lobes to the lip, only half as long as the column, which at once stamps it as a hybrid of C. bicolor. Then it has deep purple sepals and petals, closely resembling those of C. Harrisoniana in shape and colour, and I believe it to be a hybrid between the two. In fact it agrees well with C. × sororia, Rchb. f., of which a figure is given in the *Orchid Album* (vii., t. 307). This, again, I do not know how to distinguish from the earlier C. × Wilsoniana, Rchb. f., which, however, I only know from description, and the plant now seems to have been completely lost sight of. The question has already been dealt with in detail (*O.R.*, ix., pp. 266-268), and I think some of our hybridists might throw further light on the matter by crossing the two species named, which are known to grow in the same district.

R. A. ROLFE.

MILTONIA × BLEUANA VAR. STEVENSII.

THE annexed figure represents a very beautiful hybrid raised in the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. W. Stevens, from Miltonia vexillaria Leopoldi ♀ and M. Roezlii alba ♂. It is, of course, a form of the now well-known M. × Bleuana, originally raised by the late M. Alfred Bleu, of Paris, and shortly afterwards by Messrs. Veitch. Mr. Stevens writes that the flower is "from the first bulb, only an inch high, and looking at it from that point of view it must improve as it gets stronger. I have the reverse cross, but the seedlings do not grow as strongly at present."

Fig. 67. MILTONIA × BLEUANA VAR. STEVENSII.

The ground colour is blush-white, and the rich purple blotch at the base of the lip terminates in a series of radiating lines, but Mr. Stevens thinks that when the plants grow stronger the blotch may enlarge and become more solid, as in the handsome variety of M. vexillaria which was used as the seed parent. The photograph here reproduced represents the flower, natural size, and was taken and kindly forwarded by Mr. Stevens, together with a living flower. It is a very beautiful variety, and may bear the name of its raiser, whose success with Odontoglossums is so well-known. It may be added that another handsome form, M. × Bleuana nobilior, was figured as the frontispiece to our second volume.

CATTLEYA SCHRŒDERIANA.

THE rare Cattleya Schrœderiana, Rchb. f., still lingers in one or two collections. Not long ago I was pleased to see it in flower in the collection of Sir Frederick Wigan, Bart., at Clare Lawn, East Sheen, and this reminds me that its origin has never been cleared up. It was described in 1883 (*Gard. Chron.*, 1883, ii., p. 102), when Reichenbach remarked:—"It was imported and sold by Mr. F. Sander, and proves to be a most distinct and splendid plant, having the habit of C. bulbosa, Lindl., and C. dolosa, Rchb. f., not of Walkeriana, Gardn., nor of nobilior, Rchb. f. To be short, it would be C. dolosa if it had not stick-like bulbs and a lip nearly of C. Aclandiæ. The lip has the smallest basilar auricles possible, and a long equal claw (not broader at the base) and tapering as in C. Aclandiæ.

Messrs. Veitch reduce the plant to a variety of C. Walkeriana (*Man. Orch.*, ii., p. 50), remarking that is certainly anomalous, and that it was introduced "either as a unique plant, or, at most, in extremely limited quantity; but while," they add, "it deviates from the type in a still greater degree than dolosa, especially in its slender stems and in the labellum, the side lobes of which are mere abortions, we are unwilling to regard it otherwise than an anomalous form of C. Walkeriana, till more definite information is forthcoming respecting its habitat, and further importations of it are received that shall justify the specific rank as first assigned to it." Messrs. Veitch also reduced C. dolosa to the rank of a variety of C. Walkeriana, a view which is not now accepted, and which fails to explain the origin of C. Schrœderiana.

I have long had a suspicion that the plant was a natural hybrid, and hoped in vain that additional information would be forthcoming. But I have now seen the living plant, and after again comparing the dried flowers I am convinced that the plant is a natural hybrid between C. dolosa and C. bicolor. It has been recorded as a native of the province of Minas Geraes, in Brazil, and I believe it really came home with C. dolosa. In this district C. bicolor is common, at least locally, and the small auriculate side lobes of the lip indicate the latter as one of the parents, the character being found in all it hybrids. C. Aclandiæ is quite out of the question geographically, nor are the characters of the hybrid in agreement. C. dolosa is quite clearly the other parent, the colour, broad petals, and some other characters showing unmistakable evidence of such an origin, while the modified habit shows the influence of C. bicolor. In fact the plant is as intermediate between these two very distinct species as could possibly be expected. If this view is correct no further importation need be expected, except possibly a few odd plants among C. dolosa, but

hybridists might set about increasing this beautiful Cattleya in another way, and at the same time settle the question of its origin. A good figure of C. Schrœderiana has appeared (*Gard. Chron.*, 1896, ii., p. 73, fig. 15).

C. eximea (*Rodr. Gen., et Sp. Orch. nov.*, i., p. 70) is apparently nearly allied to C. Schrœderiana. It appeared in 1877, but unfortunately it is only known from description. It was found on the borders of the Rio Parahyba, in the province of Rio de Janeiro, flowering in November, and was apparently described from a single individual ("Ce rare et charmant individu"). It was said to have some affinities with C. Walkeriana, but to have more elongated pseudobulbs, which were cylindrical and monophyllous or diphyllous. The leaves are described as oval-oblong, the flower solitary, and the side lobes of the lip oblong, and enveloping the base of the column. The petals were also broad, and somewhat unguiculate, all of which characters indicate this affinity. I formerly thought it might be identical with C. dolosa (*O. R.*, ii., p. 206), which Rodrigues doubtfully included under his C. princeps, but am now convinced that the view was mistaken, for in a later paper he included C. princeps in one group with C. Walkeriana—of which it is now considered only a form—on account of the short monophyllous pseudobulbs, while he placed C. eximea, with C. Loddigesii, C. Harrisoniana, C. intermedia, and C. Forbesii, in a group having elongated diphyllous pseudobulbs. The habitat also is not that of C. dolosa. It is unfortunate that the drawing made by Rodriguez cannot be found. It may possibly be a natural hybrid between C. bicolor and C. Walkeriana.

R. A. ROLFE.

CATTLEYA DOLOSA AND ITS ALLIES.

CERTAIN remarks in the preceding note serve to emphasize the fact that the species of the C. Walkeriana group are not at all well known, and when some years ago I tried to disentangle the genus Cattleya from the state of almost hopeless confusion into which it had fallen (*O. R.*, iii., pp. 266-270) I felt that further evidence was wanted in this particular group. The getting rid of C. Schrœderiana as a species has simplified matters a little, and it may be interesting to summarise the evidence so far as the others are concerned. C. dolosa may be taken first, as a parent of the one just mentioned.

Cattleya dolosa came into cultivation in a rather curious way. In 1872 some plants were sold under the name of Lælia Jongheana—then a plant in much request, though very imperfectly known—but it was seen that they were not the true plant, and it was suspected that they might be Cattleya Walkeriana. Reichenbach was then applied to point out the differences between the bulbs of the two bulbs, which he did (*Gard. Chron.*,

1872, p. 1137). At the end of his note he remarked:—"It is very surprising that from various parts of good old England there come letters speaking of another L. Jongheana. I have even received such bulbs. Ah, those bulbs! What are they? They may belong to some Cattleya, to some Lælia; there can be no doubt that they have no affinity whatever with Lælia Jongheana. I hope we may be informed in the *Gardeners' Chronicle* what flowers they eventually produce. Till we know what it is I propose the name of Lælia would-be Jongheana."

In 1874 a plant was briefly described by Reichenbach under the name of Epidendrum dolosum (*Xen. Orch.*, ii., p. 224), without any clue to its origin, except that it was a native of Minas Geraes, and the name Cattleya dolosa was given as a synonym.

In 1876 Cattleya dolosa was described and figured (*Gard. Chron.*, 1876, ii., pp. 430, 431, fig. 78, 79), the author remarking that it had the general aspect of C. Walkeriana, but "may be immediately recognised by its stouter bulbs, stronger leaves, and larger flowers coming from fully-developed leafy bulbs," and the side lobes of the lip "fully developed, overlapping the whole column, while they may be called mere abortions in C. Walkeriana." The materials were sent by Mr. John Day, of Tottenham, who wrote:—"Cattleya sp., Minas, has flowered on the largest and finest bulb the plant has yet made, with two fine leaves. On examining the plants, of which I have many, I find no traces of any abortive bulbs. They are all uniform, gradually increasing in size, never alternately large and small, and all showing scars of the fallen leaves. It is a plant which retains its leaves very long, and there are seven or eight bulbs with leaves in the most of the best plants. The bulbs are 5—6 inches long. Leaves, generally in pairs, 4 or even 5 inches long, 2½ to even 3 inches broad, oval." Reichenbach added:—"All these notes were given me by my invaluable, most acute, oldest English correspondent, John Day, Esq., some years ago. I have seen at Mr. Day's place about a dozen, if not more, specimens of this plant. . . . This plant appeared at Mr. Stevens' rooms in thirty-four lots at the sale, Saturday, July 6, 1872, as Cattleya or Lælia from the interior of Minas, supposed to be C. Jonghi." Lastly, it may be added, the specimens figured "were made by Mr. Worthington Smith from Lord Londesborough's plants, grown by the skilful cultivator, Mr. Denning."

As might have been anticipated, the species was finely figured by Mr. Day (*Coll. Draw.*, xviii., t. 51, 52), and the drawings are now fortunately accessible. The drawing was made on October 29th, 1874, and is labelled "Cat. sp. from Minas," the author remarking:—"I obtained this lovely Cattleya from Mr. Linden, August, 1872. Plants have been included in sundry of his sales, both before and since. They were first called Lælia Jonghii and afterwards Cattleya sp. from Minas. Whatever it is, it is a

superb thing. This is the first time it has flowered. . . . There were a pair of flowers." Then follows a note, added afterwards, that in June, 1876, it flowered again, producing a spike of three flowers. A second drawing is dated May 8th, 1876 (*l.c.* xix., t. 33), where the remark occurs:—"It is one of the most beautiful Cattleyas I have ever seen."

It is now quite evident that the plants just mentioned were all one and the same thing, and it is rather curious to note that soon afterwards it became comparatively rare.

In 1887 Messrs. Veitch reduced it to C. Walkeriana var. dolosa (*Man. Orch.*, ii., p. 50), though at the same time admitting the differences previously pointed out.

In 1889 an importation was received from Minas Geraes, by Messrs. Sander, and in 1894 another by Messrs. Peeters, of Brussels. There may have been subsequent importations, but what fixes these two is the fact that in each case another puzzling form appeared with them, namely C. × O'Brieniana, now believed to be a natural hybrid between this species and C. Loddigesii, which is known to grow in the same region. Its history has already been given (*O.R.*, iii., p. 11). Thus there are believed to be two natural hybrids from this interesting Cattleya, which even now seems to be rare in cultivation.

R. A. ROLFE.

HYBRIDIST.

LÆLIO-CATTLEYA × CRISPO-HARDYANA.—This is a handsome hybrid, from the collection of Major G. L. Holford, Westonbirt, Tetbury, to which an Award of Merit was given by the R.H.S. on September 26th. The parents are Lælia crispa and Cattleya × Hardyana alba, the former being the seed parent. A flower sent by Mr. Alexander, most resembles the Cattleya parent, both in shape and colour, the sepals and broad petals being lavender pink, and the broad lip rich purple crimson, with a yellow throat. A flower from another seedling out of the same capsule, also sent, shows more of the Lælia character, being smaller, with narrower petals and lip, and the colour white, with a yellow throat to the lip, and a purple front lobe.

LÆLIO-CATTLEYA × ALEXANDRI.—Another handsome hybrid from the same collection, derived from Cattleya granulosa Schofieldiana × L.-c. × elegans. The flower sent is larger than the pollen parent, and has the lip almost as deeply divided as in the seed bearer, while the petals have also the curved shape and broad apex of the Cattleya parent. The sepals and petals are light purple, with a darker marbling, and the front lobe of the lip and apex of the side lobes are very deep rich purple. It is an improvement on L.-c. × elegans, and should develop into a very fine thing. It is dedicated to Mr. Alexander, Major Holford's able Orchid grower.

ORCHIDS AT BURFORD.

IN no other private collection, probably, are there so many choice botanical rarities as in that of Sir Trevor Lawrence, Bart., at Burford, Dorking, and it has been very well remarked that a visit during every month, if not every week, of the year would be amply repaid, especially as the popular species and varieties are equally well represented. The other day we took an opportunity of calling on Mr. White, but can only mention a tithe of the numerous interesting things seen.

In one of the warm houses we noticed over four dozen plants of the brilliant Habenaria militaris in bud, with one or two of the earliest flowers just on the point of expanding, and one could readily imagine the sight they would produce a fortnight later. In view of Mr. White's success with this plant it may be interesting to recall the article on its culture which he wrote for our first volume (pp. 83-85), where complete details are given. There was also a good plant of H. Susannæ, already two and a half feet in height.

In a house devoted to Aërides, Vandas, and allies, Mr. White pointed out a number of Anœctochili, including Macodes Petola, and others, which had been inserted here and there in the compost as single cuttings, and were now growing finely and as robust as could be wished, showing that these plants only require the provision of a suitable temperature and atmosphere, with the necessary amount of shade. In fact they were doing better than often seen under bell glasses.

It was interesting to see the little plant of Paphiopedilum Fairrieanum and to compare it with two of those recently imported. It was under a hand-light in the Odontoglossum house, with some sphagnum moss round the pot to keep the atmosphere moist, and it has been here all the summer. The idea of cool treatment arose through an impression that Mr. White had of its improving during a spell of cool weather in the previous year. The plant is still small, the longest leaf being about 2½ inches long, but it was growing and looked healthier than when we last saw it in heat.

A fine plant of Dendrobium Victoria-Regina is still growing on a raft in this house, suspended from the roof. In was in robust health, and in bud, and there can no longer be any doubt that this is the proper place in which to grow this very distinct species, and it is only when well-grown that its real character is seen. Some nice little seedlings of Odontoglossum × Lairessei, obtained from a white form of O. Cervantesii crossed with O. Edwardii, were also doing well.

The Catasetums and Cycnoches were in thriving condition suspended from the roof of a Dendrobium house, and a large number of spikes were present in various stages. It was very interesting to see an inflorescence

of the handsome Catasetum Bungerothii, while near by was a plant of C. macrocarpum, and a light yellow form of the supposed natural hybrid between them known as C. × splendens. All were male flowers, but should a female of C. Bungerothii appear, as occasionally happens, it would be very interesting to try the effect of crossing the two species together, as the natural hybrid made rather a sensation on its appearance a few years ago, but soon became rare again. Two plants of Cycnoches chlorochilon were in flower. This is evidently a good position for Catasetums, as some of the plants have recovered from quite small pieces.

NOTES.

THE next meeting of the R.H.S. will be held at the Royal Horticultural Hall, Vincent Square, Westminster, on October 10th and two following days, the occasion being a great exhibition of British-grown Fruit, consequently the Hall will not be available for groups of Orchids, but we believe that the Committees will sit on the first day, when individual plants may be shown for Certificates as usual. A second meeting will be held on October 24th, when the Orchid Committee will meet at the usual hour, twelve o'clock noon.

The Manchester and North of England Orchid Society will hold two meetings at the Coal Exchange, Manchester, during October, on the 12th and 26th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 p.m.

The last issue of the interesting little *Dictionnaire Iconographique des Orchidées*, published and illustrated by M. A. Goossens, Brussels, contains figures of the following:—Ancistrochilus Thomsonianus var. Gentilii, Cattleya Skinneri, C. × Krameriana, Cypripedium × Enid, C. × Mrs. Fred. Hardy, Dendrobium æmulum, D. Dearei, D. secundum, Epidendrum Nemorale, Lycaste costata, Masdevallia Arminii, M. × Measuresiana, and Polystachya mystacidioides, the latter being the remarkable species which is noted at page 188 of the present volume. A note on the plant called C. × Krameriana appears on page 312.

We learn that the photograph of the interesting Ophrys × hybrida with its parents, which were figured at page 233 of our August issue, was taken by Mr. W. H. Hammond, of Canterbury. Mr. Hammond now sends a photograph of the excessively rare Orchis hircina, from a plant growing in Kent, and which we are glad to know has been carefully preserved for some years. It is said to be the only one seen growing wild in Kent for some time.

We learn with regret that owing to ill-health the collection of A. G. Shenstone, Esq., of Burleigh House, Epping, has been broken up, in consequence of which his able gardener and Orchid grower, Mr. W. J. Murphy, is seeking a situation. Mr. Murphy was for three years in the Orchid houses of H. T. Pitt, Esq., Stamford Hill, and foreman to the late Welbore S. Ellis, Esq., Hazelbourne, Dorking, up to the time the collection was sold. We hope his well-known abilities will soon meet with a suitable reward.

THE ORCHID STUD-BOOK.—The printing of this work is proceeding satisfactorily, and we hope now to be able to accelerate its progress. The amount of confusion and the number of imperfect and contradictory records met with during its revision has been almost incredible, but the difficulty will not recur.

ORCHID PORTRAITS.

BULBOPHYLLUM LOBBII VAR. COLOSSUM.—*Gard. Chron.*, 1905, ii., p. 184, fig. 68, with suppl. plate.

CATASETUM BUNGEROTHI.—*Journ. Hort.*, 1905, ii., pp. 220, 221, with fig.

CIRRHOPETALUM BREVISCAPUM, Rolfe.—*Bot. Mag.*, t. 8033.

CYPRIPEDIUM FAIRRIEANUM.—*Garden*, 1905, ii., p. 173, with fig.

CYPRIPEDIUM GODEFROYÆ LEUCOCHILUM GOODSON'S VAR.—*Gard. Mag.*, 1905, p. 597, with fig.; *Journ. Hort.*, 1905. ii., pp. 290, 291, with fig.

DENDROBIUM DEVONIANUM.—*Garden*, 1905, ii., p. 211, with fig.

EPIDENDRUM ATROPURPUREUM RANDII.—*Journ. Hort.*, 1905, ii., p. 243. with fig.

LÆLIO-CATTLEYA × BERTHE FOURNIER, WESTONBIRT VAR.—*Journ. Hort.*, 1905, ii., pp. 266, 267, with fig.

PROMENÆA ROLLISSONI.—*Flora & Sylva*, 1905, pp. 224, 225, with fig.

ZYGOPETALUM DISCOLOR VAR. ATROCŒRULEUM.—*Flora & Sylva*, 1905, pp. 220, 223, with plate.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

D.A.L. The proposal has been considered, but we cannot see our way to adopt it at present.

H.R. Next month.

Photographs received, with thanks. W.H.H., E.B.C.

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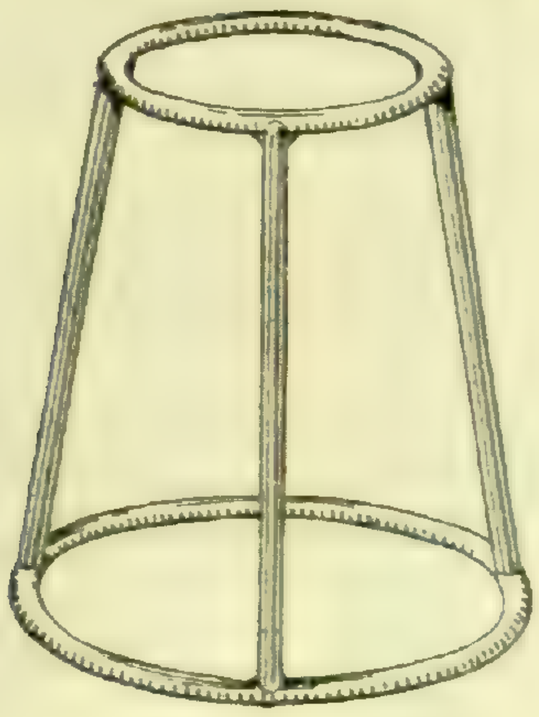

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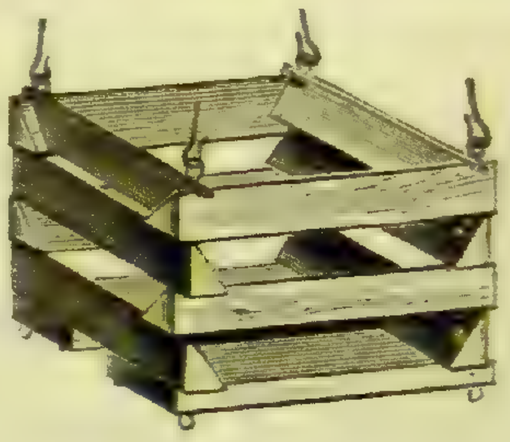

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Vol. XIII.] NOVEMBER, 1905. [No. 155.

THE ORCHID REVIEW:

An Illustrated Monthly Journal of Orchidology.

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THE ORCHID REVIEW.

VOL. XIII.] *NOVEMBER*, 1905. [No. 155.

DIES ORCHIDIANI.

THE other day a horticultural friend was lamenting the attention now being paid to hybrids, because it led to the species being neglected, "no one now-a-days," he remarked, "taking the trouble to import them." It certainly does appear that growers are now making their novelties at home instead of importing them from abroad. And there is one other cogent reason, namely, that novelties of sterling merit are becoming increasingly difficult to import. Still the supply is not exhausted, as is proved by the appearance at the last R.H.S. meeting of a new Oncidium of such merit as to gain the award of a First-class Certificate from the Orchid Committee, unanimously. I use the word "new" in a horticultural sense, for the plant has never flowered in cultivation before, though it has long been known from dried specimens. I need not say much about it, because its history appears on another page, but it is an extremely handsome thing, as indeed it ought to be after one has waited some fifteen years for the flowers. Hybridists are often regarded as models of patience, in waiting so long for their results, but even a hybridist would give the work up in disgust if fifteen years expired before his seedlings condescended to flower.

———

Equally puzzling is the fact that it is not what it was supposed to be. It was exhibited and certificated as O. Leopoldianum, but later in the day it was pronounced to be O. corynephorum, of Lindley, a Peruvian species only known from dried specimens, and I saw an animated little group round the plant discussing the pros and cons of this new development. I believe that another grower has now a new perplexity to face. He has been steadily cultivating a plant for about the same period, and wondering whether it would ever be induced to bloom; now he is wondering what the flowers will be like when—if ever—the event takes place.

———

I hope the daily press will not get hold of the story, or there is no telling what they may make of it. The "Lost Orchid" had a good run, and a correspondent recently wrote me that he could scarcely pick up a

paper without finding some reference to the question; now it is the "new British Orchid" which is receiving attention. Quite a number of cuttings from various sources have reached me, in which the story is somewhat varied, but I learn that a new British Orchid has been discovered in Kent, "Orchis" hybrida, to wit; that it is a hybrid between the familiar Fly Orchid and the Spider Orchid, and though slightly known on the Continent has never before been seen in this country, that it has been identified by a famous Orchid expert; that it is pronounced to be very valuable; and that the finders on hearing of its rarity decided to present it to the "Kew Observatory, where it is now on view in one of the Orchid houses." One epistle is signed "Expert," and appears under "Topics of the Day." It commences, "Sir,—Botanists are interested just now in the development of a rare wild Orchid which was found in Kent a few weeks ago, and is now on view in one of the Orchid houses at Kew. . . . The chances are a thousand to one against the plant developing under cultivation." It is a delightful jumble, for of course it is an echo—with variations—of the story of Ophrys × hybrida, which appeared in the August issue of this work. I suggest as a suitable title for the next story, "The Orchid that never flowers."

The figure of the very beautiful Cattleya × triumphans given at page 305 takes me back to the question of Progress in Hybridisation. This hybrid is the result of crossing such unquestionably beautiful species as C. Dowiana and C. Rex, and is at least not less beautiful than either of its parents, while quite distinct from both. And there is the probability that the hybrid has a more robust constitution. Cattleya × Iris, the result of intercrossing C. bicolor and C. Dowiana, is another very valuable horticultural acquisition, and in my opinion superior to either parent from a decorative standpoint. Two or three times during the past autumn I have seen numbers of this beautiful hybrid, and have been astonished at its beauty of form, richness of colour, robust constitution, and floriferousness, as well as its wide range of variation.

Of course there are many other hybrids to which similar remarks apply, and such cases only stimulate raisers to further endeavours. I once heard the remark that a hybrid was, "in most cases, two good species spoilt," but if such were really the case is it conceivable that hybridisation would have made such astonishingly rapid progress as it undoubtedly has done during the last few years? I think not. True, all hybrids are not improvements, but the failures are easily dealt with. Look at the groups which come from our great hybridising establishments! Is it any wonder that hybrids are popular?

ARGUS.

ORCHIDS IN CAPE COLONY.

AT page 248 of our August issue we gave a note on a fine form of Paphiopedilum insigne, sent by Mr. H. Rabjohn, gardener to J. A. Chabaud, Esq., of Port Elizabeth, South Africa, and Mr. Rabjohn now sends some notes from that "corner of the British Empire" which he hopes will "interest readers at home." He also sends a newspaper cutting describing a peculiarity of the winter rains in the Graaff Reinet district, and adds:—"It is much the same in this district, and this is the water we have to use in our Orchid culture, and for drinking purposes." The cutting states:—"A correspondent, writing to the Graaff-Reinet paper on September 5th, says:—In yesterday's issue I see it remarked that the rain-water on Sunday was of an inky blackness. Last year, on 21st August, showers fell here, and also on the surrounding farms (gauge .14) and the water was black, and again on the 25th September we had .17, also black rain. In both instances, the water—especially when put into a dish about six or more inches deep—had the appearance of black ink. Has the time of the year, perhaps, something to do with it? August and September seem to be the black rain months." It is fortunate that the plants are at this period in their winter quarters.—ED.

The Wyndomayne collection, in comparison with many of the private establishments at home, is small, hardly numbering a thousand plants, but it is young, and, what is better still, growing, in more ways than one.

Being in the vicinity of Algoa Bay, we have to contend with much adverse weather. The climate is naturally good, and, from a cultivator's point of view, might be much worse. We experience here no frost, and the mean temperature for August, the coldest month, was 43° Fahr., the lowest temperature registered being 38°, and the highest 82°. The north-west and south-east winds are the chief workers of evil, and should they break through the shelter, havoc is great. Then we have long periods without rain, which has bad atmospheric effects. I mention these things, as their importance will be seen at a glance when I say that we are not assisted with any artificial heat at any time, and should there be two or three cold and wet days during the winter we very naturally suffer, probably more than is noticed at the time. I am not disposed to say that artificial heat is unnecessary, but the various difficulties presented at different times have made it necessary to adopt the most efficient methods generally.

Of all Orchids, perhaps, the Paphiopedilums give most satisfaction under the treatment, which, of course, is not quite suited to Cattleyas, and therefore the results are not the same. The Phragmopedes are not so easy as their Indian brethren to do really well. Although they grow fairly well, they flower less abundantly, and are not to be compared with the

others. At present they all grow together, and receive much the same treatment. Their winter quarters are a hip-span frame, with a sunny aspect up to 3 p.m. On warm days, shading is necessary, and a frequent use of the syringe, and about 1 p.m. the frame is closed till after night-fall, when, according to the weather, the lights are opened on one side. During the hot summer months the plants grow in a reed house, on damp ashes. The reed house, I may mention, is a square structure of quartering, to which the reeds, properly bamboos, are tacked on top and sides, allowing a free circulation of air, and giving a nice, even shade, to which is added in extra hot weather a cane lath-blind, worked by means of small pulleys.

The chief essentials are careful watering, both summer and winter, plenty of syringing, and a keen look out for insect pests, of which we have more than our share, scale being the most troublesome, especially a tiny star-like species, which sticks very tightly, but it is an old enemy at home.

When potting becomes necessary, which I find is more frequently than at home, peat answers the purpose better than anything else. This, of course, makes their culture doubly expensive, as it must all be imported. I have used in conjunction very fibrous bush soil and cow manure, but find very little difference in growth as yet. Plenty of drainage is essential, but not the old orthodox method of keeping the plant well above the rim of the pot. Our climate is too dry for this.

As is quite natural, some species do better than others, although the selection made is a good one, I think that many others not yet tried will answer equally well. Probably the easiest of all are the P. Lawrenceanums, which flower freely for six months of the year, and make fine, healthy leaves; a true sign that the right method has been found. P. Boxallii does well, and is the principal winter bloomer, being much more satisfactory than P. villosum, but I prefer the latter. The P. insignes come in earlier, and are practically over before the worst of the winter comes. They also do very well. Under this cool treatment P. Spicerianum also succeeds, but the foliage, although green and healthy, does not lengthen as when wintered in heat, but the leaves are certainly broader. The scapes are moderately short and self-supporting, and the flowers, though hardly so large, are brighter and last longer, and are in every respect preferable. P. × Leeanum is not strong, although it flowers, whereas P. Charlesworthii, although showing nothing wrong in the foliage, does not flower freely. P. Curtisii is one of the best, and makes quite an exhibition of its own when in flower. P. Godefroyæ needs care throughout the winter, as too much moisture causes the young growths to damp, even with plenty of air, and the soil has to be kept on the dry side. P. Parishii flowers strongly and well, but is very slow, and takes time to recover from the exertion of flowering.

P. bellatulum and P. × Winnianum have never flowered, nor has

P. Lowii or P. × Morganiæ, but hope runs high, for the plants are in every way satisfactory, so it may be only a matter of time. P. barbatum, P. callosum, P. Dayanum, P. Hookeræ, P. hirsutissimum, P. venustum, and P. Chamberlainianum, with others, are all more or less satisfactory, but those mentioned are the best.

Of the Phragmopedilums, × Sedenii and × grande are the best, but Sedenii candidulum is also a good grower. P. caudatum is a bad one, and P. × Dominianum a "brute," for it positively will do nothing; P. × Schrœderæ is showing better form of late, but this section has one bad fault here, viz., the decaying of the foliage from the tip downwards, for no apparent reason, and making the plants look more or less unsightly.

The chief factor is the potting, I think, and it needs even more attention than at home. Only when the plants are in the open structure do they receive any rain water, and here, in the absence of a glass roof, they have to take such rain as falls, much or little, as I have no control over it.

H. RABJOHN.

CATTLEYA WALKERIANA AND C. NOBILIOR.

THE history of Cattleya dolosa and C. Schrœderiana were given last month (pp. 314-317), when the reasons for considering them distinct from C. Walkeriana were pointed out. We now come to the original species of the group.

C. WALKERIANA was described by Gardner in 1843 (*Hook. Lond. Journ. of Bot.*, ii., p. 663), from specimens collected "on the stem of a tree overhanging a small stream which falls into the Rio San Francisco, beyond the Diamond district, Brazil," the author remarking:—"The specific name will serve to commemorate the services of Mr. Edward Walker, who accompanied me as an assistant during the last two years of my travels in Brazil, and by whose activity and intelligence I was enabled to make many additions to my collections which might otherwise have escaped my notice, of which the present plant is an example."

About four years later Lindley figured and described a species under the name of C. bulbosa (*Bot. Reg.*, 1847, t. 42), remarking:—"Brazil is supposed to be the parent of this exquisite little species, but it is not certain. We are indebted for it to Mr. Rucker, with whom it flowered in May last." This afterwards proved identical, as was pointed out by Lindley himself, when figuring the species in *Paxton's Flower Garden* (i., t. 3), from a plant which flowered in the collection of C. B. Warner, Esq., of Hoddesden.

It appears to have been first introduced to cultivation by M. Libon, who is said to have found it in the environs of Pic d'Itabira, in the province of Minas Geraes, from whence he sent numerous examples to M. Galeotti, in

1843. They arrived in bad condition, but in 1848 an expedition was made by M. de Jonghe, of Brussels, who obtained a batch of good plants (*Pescatorea*, t. 41). M. Libon recorded the plant as growing "high up on the smooth and hard bark of a species of Jacaranda, scattered over an arid plain, and exposed to the hot currents of air that frequently blow over it." At this time a peculiarity was pointed out Mr. J. Van Volxen, of Brussels, which had not been observed in any other Cattleya, namely, that the peduncle was not produced from the summit of the stem, but from a small shoot issuing from the rhizome at the base of the last made pseudobulb, and that after the flowers have withered a new bud is formed, which develops into the pseudobulb and leaf.

In 1877 the species was again described, by Rodriguez, under the name of C. princeps (*Gen. et Sp. Orch. Nov.*, i., p. 68), the habitat being given as "on rocks exposed to the sun, in several places on the Caldas range, Brazil." Rodrigues' coloured drawing shows that it agrees completely with C. Walkeriana in habit, size, colour, and in the very small side lobes of the lip.

C. Walkeriana appears to be a widely diffused species, being recorded from several localities in the provinces of Minas Geraes and Goyaz, and also from the province of Matto Grosso. It is rather rare in cultivation, and we believe prefers a light position near the roof of the Cattleya house.

C. NOBILIOR.—In 1883 a handsome Cattleya was figured and described by Reichenbach in the *Illustration Horticole* (xxix., p. 73, t. 485), under the name of C. nobilior. It was said to be allied to C. Walkeriana, but to be of larger dimensions, with more ample side lobes, nearly enveloping the column, a reniform, emarginate front lobe, and a large yellow disc. It was introduced by the Compagnie Continentale d'Horticulture, it is said, from a region in Brazil where no collector had previously sought for Cattleyas. This has since been stated to be the province of Goyaz, where C. Walkeriana is also known to occur. A figure also appeared in the *Gardeners' Chronicle* (1883, i., pp. 728, 729, fig. 120). The peduncles are produced from slender shoots issuing from the rhizome, as in C. Walkeriana, of which species Messrs. Veitch afterwards made it a variety, under the name of C. Walkeriana var. nobilior (*Man. Orch.*, ii., p. 50).

A variety has since been figured under the name of C. nobilior var. Hugueneyi (*Lindenia*, i., t. 5), which is said to have been discovered by M. Hugueney, in the province of Matto Grosso, Brazil.

C. nobilior is said to grow in Western Brazil, sometimes on naked trees, sometimes on rocks, where the plants for several months are exposed to the sun's rays, without any moisture except the night dews. The plants are then at rest, but during the rest of the year the rains are copious, and during this period the plants are in a state of active growth.

The plant is still very imperfectly known. The materials available, however, suggest that while having the C. Walkeriana habit, the flowers are more like those of C. dolosa, especially in the more ample side lobes of the lip. Whether the differences in vegetative character are constant is doubtful, for Reichenbach observes that flowers have occurred on an aphyllous pseudobulb in the collections of J. Day, Esq. and Sir Trevor Lawrence, and that he also possessed a wild example. He, however, considered the character as anomalous. Its exact relation to C. Walkeriana and C. dolosa must remain somewhat uncertain until more materials are forthcoming.

R. A. ROLFE.

ORCHIDS IN SEASON.

A THREE-FLOWERED inflorescence of the beautiful clear yellow Odontoglossum grande Pitt's variety is sent from the collection of H. T. Pitt, Esq., Rosslyn, Stamford Hill. It differs from the type in having completely lost the brown markings from the flower, leaving the sepals and petals clear yellow, rather deeper towards the base, and the lip white, thus presenting a strong contrast with the typical form. There are also four forms of the pretty little Epidendrum × Endresio-Wallisii, a flower of E. umbellatum, a pretty white form of Dendrobium Phalænopsis having just a tinge of rose in the throat of the lip, together with spikes of Bulbophyllum Careyanum and the pretty little South African Stenoglottis longifolia, the latter being compared to a British Orchis.

Several interesting and beautiful flowers are sent from the collection of J. J. Neale, Esq., of Penarth, by Mr. Haddon. There are good flowers of the handsome Dendrobium Phalænopsis and its smaller and darker variety Statterianum, which are so useful during the autumn, also a good D. formosum and D. pulchellum (Dalhousieanum). Odontoglossum is represented by two distinct forms of O. crispum, from a recent importation, which are spotted only on the sepals and lip, a flower of O. Lindleyanum, and one of the rare O. constrictum; and Miltonia by M. Clowesii and the beautiful M. Warscewiczii var. Weltoni. The others are a pale form of Trichopilia coccinea, Cattleya bicolor, Gomesa planifolia, a good Oncidium Papilio, and Xylobium squalens, forming a very interesting little group. A flower of the rare Houlletia Brocklehurstiana should also be mentioned, which Mr. Haddon remarks is from a plant which produced two spikes, one of six, the other of ten flowers.

Flowers of a distinct and pretty form of Odontoglossum crispum are sent from the collection of F. M. Burton, Esq., Highfield, Gainsborough. The petals are pure white, and the lip also in front of the yellow crest, but the sepals have each four to six roundish red-brown blotches. The spike bears fifteen flowers, like the old variety guttatum in shape.

Odontoglossum crispum Ladas is a very beautiful variety sent from the collection of John Leemann, Esq., of Heaton Mersey, by Mr. Edge. The segments are very broad, giving the flowers a round appearance, and the petals bear one very large cordate blotch, leaving a white basal area and a very broad white margin. The sepals are tinged with rose, and bear large rosy brown, more or less confluent blotches, which are deep purple at the base of the flower. The markings on the lip are cinnamon coloured. It should develop into a very fine thing.

A very fine form of Paphiopedilum Charlesworthii is sent from the collection of Frank Baker, Esq., Handsworth, Birmingham. The dorsal sepal is over 2½ inches across, and closely reticulated and marbled all over with rosy purple on a whitish ground. The plant has five growths and four flowers, and should be taken care of.

A fine flower of Paphiopedilum × Imogene (Arthurianum × ciliolare) is sent from the collection of Francis Wellesley, Esq., Westfield, Woking, by Mr. Hopkins. Its history was given at page 103, and we may briefly add that it most resembles an enlarged P. × Arthurianum in general character and markings.

Flowers of a very charming light form of Cattleya Eldorado and C. × Portia are sent from the collection of J. H. Grogan, Esq., Slaney Park, Baltinglass. The latter is a hybrid between C. labiata and C. Bowringiana, and an autumn-flowering plant of great merit.

Several beautiful Orchids are sent from the collection of Reginald Young, Esq., Sefton Park, Liverpool (gr. Mr. Poyntz), including the handsome Cattleya × Mrs. J. W. Whiteley, Paphiopedilum × vexillarium superbum, P. × Wendigo, P. × Dædalas, and P. × Syrinx, the latter a very fine hybrid between P. tonsum ♀ and P. × Youngianum ♂. The latter has recently been figured (*Gooss. Dict. Ic. Orch.*, Cyp. hyb., t. 55). A photograph of the handsome P. × Milo Youngii is also sent.

A flower of the charming little hybrid Paphiopedilum × Daphne is sent from the collection of W. M. Appleton, Esq., of Weston-super-Mare. The flower is fairly intermediate in character, and the combination of exul spots with the Charlesworthii colour and staminode renders the flower very attractive.

Several beautiful flowers are sent from the collection of Jeremiah Colman, Esq., Gatton Park, Reigate, by Mr. Bound, including the remarkable Phaio-cymbidium × chardwarense, Cattleya × intermedio-gigas, C. Harrisoniana, and Paphiopedilum Thorntoni delicatum. The latter is a pretty light form derived from P. superbiens and P. insigne Sanderæ, and has a cream white flower, with a few purple spots on the petals. A photograph of the latter, and of the extremely fine Lælia pumila var. The Queen, are also sent.

PESCATOBOLLEA × BELLA.

The annexed figure represents a very beautiful but puzzling Orchid from the collection of Frau Ida Brandt, Riessbach, Zurich. It was received from the late Consul Lehmann under the name of Pescatorea Klabochorum, but on flowering proved altogether different. It was exhibited at a meeting of the R.H.S. on November 21st, 1899, where it appears to have received the name of Zygopetalum Gairianum, under which name it was figured (*Gard. Chron.*, 1899, ii. p. 401, fig. 129). There being some doubt about the correctness of the determination, Mrs. Brandt sent a living flower, a photo-

Fig. 68. Pescatobollea × bella.

graph, and a life-size painting of the plant, at the same time writing:—"My idea is that this so-called Pescatorea Gairiana is a natural hybrid between Bollea cœlestis and Pescatorea Klabochorum." On comparing the materials, I came to the conclusion that they agreed better with Pescatorea bella (Rchb. f. in *Gard. Chron.*, 1878, i. p. 492), of which Reichenbach originally remarked:—"We have had nothing comparable in colour excepting Bollea cœlestis. I have a melancholy fear it is a mule between this and some Pescatorea. I cannot help it. There is not the least doubt of the

two being totally distinct things. Bollea cœlestis has a very broad boat-shaped column with a disc of rich hairs, and a great square callus; but, on the other hand, the sepals and petals have the same striking uncommon colours, though the broad purplish-violet zones are more in the centre in Bollea cœlestis. As it is, we must wait and observe—*laboremus*; there may come the day when we, or those who will come afterwards, may get the necessary light."

Unfortunately we do not know what either Reichenbach's Pescatorea bella or his later P. Gairiana really are, except so far as his descriptions go, for the plants have long since been lost sight of, and no drawings are known, while the original specimens are locked up, so that those who "come afterwards" shall not even be allowed to have a look at them. Mrs. Brandt's plant, however, shows such an unmistakable combination of the characters of Bollea cœlestis and Pescatorea Klabochorum as to leave little doubt that it is a hybrid between the two. And it is quite possible that P. Gairiana may be only a form of the same, for it was purchased by Mr. Gair as Bollea cœlestis, and was not known to be different until it flowered. The colours and general characters agree very well, and the more hairy lip is not difficult to account for, as hybrids are notoriously variable, and one form might approach the Bollea in having a nearly smooth lip, while the other might retain some of the hairy character of the Pescatorea.

The possibilities of the occurrences of natural hybrids in this group are considerable, though the question has never been worked out. When Reichenbach described Pescatorea Russelliana (*Gard. Chron.*, 1878, ii., p. 524) he remarked:—"There is no end of new Pescatoreas and Bolleas, though it is not so astonishing as it may appear. The majority of these plants are collected by the native collectors out of flower, one as like the other as one egg to another; hence all are believed to be the same as those collected in the flowering state." The question then is to find out which of them grow together, and to ascertain their relations to each other, and this is particularly difficult owing to the secrecy observed by collectors as to the habitat of the plants.

There are grounds for suspecting that two other described species belong to Pescatobollea, namely, Bollea Lawrenceana and B. pallens. The latter was described in 1881 from the collection of J. Day, Esq., of Tottenham (*Gard. Chron.* 1881, i., p. 462), without any further clue to its origin, and it was remarked:—"The narrow column with median blunt side angles separates it well from all known Bolleas, and brings it nearer Pescatorea than any Bollea." Mr. Day, as usual, made a coloured drawing (*Coll. Draw.*, xxvii., t. 39), the date being Sept. 11th, 1880, and remarked:—"This was bought for Bollea cœlestis, in 1878, at a sale at Stevens', I think of Mr. F. Sander's importation. I took it for B. Patini or

Lalindei, but not recognising it clearly for either I sent the flower to my kind friend and correspondent Prof. Reichenbach, who writes me that he considers it to be a species, and named it pallens. The habit and leaves are those of Bollea cœlestis." Nothing further is known about it, but it looks like a hybrid between B. Lalindei and some New Grenadan Pescatorea, possibly P. lamellosa, which has some strong resemblance in the crest.

Bollea Lawrenceana was described three years earlier (*Gard. Chron.*, 1878, ii., p. 266), and is also anomalous, the author remarking :—" Without the arrogance of a certain *vaticinium*, we cannot undertake to judge their position, perhaps as sexual forms." He also added, " It is one of the most stately Orchids of the world, and may be regarded as connecting in some way Pescatorea bella and Bollea cœlestis." It was regarded as " unique," and the opinion was expressed :—" There can scarcely be a doubt that this is once more one of the Klabochian discoveries." It was subsequently figured (*Warn. Sel. Orch.*, iii., t. 13), the figure showing a flower something like Pescatorea Klabochorum, except that the colour of the apical blotches, and of the lip, more nearly resembles Bollea cœlestis. The column is also narrower than in Bollea. There is a very strong suspicion that it is a hybrid, and that some Pescatorea was one of the parents. It would be extremely interesting to see what a batch of seedlings between the two species would produce, and as both are in cultivation the experiment could easily be attempted.

There is also the remarkable Chondrobollea × Frœbeliana, whose history was given at the same time that the name Pescatobollea × bella was suggested for the present plant (*O.R.*, x., p. 347). The attempt to raise this artificially might also be made.

R. A. ROLFE.

ANGRÆCUM INFUNDIBULARE.

THE plants of this remarkable species in the Hon. Walter Rothschild's collection at Tring Park are now making a fine display. There are two or three of the fine white flowers on each plant now expanded, and others are showing flower. When grown on teak rafters, inserted in pots, with a foundation of crocks, and a surface of sphagnum moss, it is proving to be a robust and free-flowering species. It requires to be grown in a warm, moist, and tolerably shady house until August, when it should be allowed more sun than is usually afforded other species of Angræcum. The specimens at Tring Park were collected in 1902, by Major H. B. Rattray, on the Victoria Nyanza, Uganda, where they grow in company with A. Rothschildianum, and other species which have not yet flowered in cultivation.

R. WARRIOR.

CALENDAR OF OPERATIONS FOR NOVEMBER.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

THE mention of November is not calculated to awaken enthusiasm in the Orchid grower, especially if it be his fate to live in the neighbourhood of large commercial towns and cities, for it is the month for foggy weather. The pure fogs of the country are in no way injurious, but those in the neighbourhood of large towns are so charged with smoke and various chemical fumes, which are unable to pass away, that vegetation is seriously handicapped. Under these circumstances it is not surprising that when the fog swoops down upon our plants, the flowers and flower spikes are often spoilt, and even the foliage of some species is likewise affected, more especially if very dry at the root, or if the atmosphere of the house be very much parched. I have come to the conclusion that plants which are moist at the time of a heavy fog do not suffer so much as those that are very dry, and therefore I would recommend that drought should be guarded against at such times, that the ventilators be kept closed, and that sufficient warmth maintained to cause a genial temperature. Time permitting, it is a good plan to sponge the leaves of Orchids with clear soft water when the fog has passed away.

Damping down in all departments will now require to be done once or twice a day, in accordance with the outside conditions. Should the weather be damp and mild once will suffice, and that during the morning, but should the weather be such as to necessitate a good amount of fire heat, twice a day will probably not be too much; though here again we must be guided by circumstances.

Cattleya Bowringiana is most useful for this month, and deserves to be grown in quantity. When vigorous it produces immense trusses of flowers with from ten to twenty blooms on a spike, and when so grown is a very telling species. Since its introduction in 1884, it has proved to be most amenable to culture, small plants very quickly developing into strong specimens. I always prefer to repot when growth takes place in the early spring, and if pots are used, should always be elevated high above the rim, the new growth always having a tendency to grow lower each year, and if one is not watchful, the new growth may sometimes go down among the compost. Any plants of Cattleya Lawrenceana not having yet completed their new pseudobulbs, should be encouraged to do so quickly, by giving them the warmth of the East Indian department.

Plants of Odontoglossum citrosmum, have mostly, by this time, completed their new pseudo-bulbs, and when so should receive a good rest throughout the winter, in order to make them bloom the better. Any other intermediate growing Odontoglot, as for instance, O. grande—now

nearly finished flowering for the season—O. Reichenheimii, O. Insleayi, O. hastilabium and O. Londesboroughianum should likewise be assisted, receiving only sufficient water to maintain plumpness.

Miltonia vexillaria is a species continually engaged in active growth. No sooner has it finished flowering, about Midsummer, than the new growths again start away from the base, and continue to grow throughout the winter. They should, therefore, if possible, have the warmth of the Cattleya house during winter, but be watered sparingly, for if overdone with water—which is very easy—the foliage becomes more or less spotted, and the leaves commence to decay at the apex, which portion should be trimmed away with a sharp pair of scissors. The whole genus prefers the Cattleya house, exception M. Roezlii, which does best in the East Indian house.

Among Oncidium in bloom this month is often seen the pretty little bee-like species, O. dasytyle. It is a winter-blooming species, growing best in small pans or baskets, and suspended from the roof of the Cool House. Its requirements as regards rest are quite similar to other Oncidiums of this class, as for instance, O. crispum, Forbesii, tigrinum, varicosum, and some others, which, after flowering, are inactive for the remaining part of the winter, and should receive but little water. Then there are the lovely little species, O. curtum, O. Gardneri, and O. prætextum, which are well worth a place in any collection. These do not generally bloom until the spring months, and therefore are more or less growing throughout the winter, and should on that account be given intermediate temperature, and a little more water at the root.

Lælia anceps, and the other winter flowering short-bulbed Lælias, will give the next big show of flower. They are now fast pushing up their spikes. L. autumnalis and L. albida are, I think, the most difficult of these kinds to keep long in first-class condition; but with plenty of light and air, even these will submit to cultivation, and grow fairly satisfactorily. When the growing conditions are near the mark and they deteriorate, then the chief cause undoubtedly is that they are allowed to over flower themselves. Any bulbs which are inclined to be weak, and are showing a flower spike, should have it cut off, to give them a chance of recuperating.

Many beautiful Cypripediums will be in bloom this month, including the many varieties of C. insigne, C. Spicerianum, &c., and their very numerous hybrids, also Selenipedium longifolium, S. Schlimii and the hybrids arising from them. Many of the above species and hybrids may be grown in a Cool House, but all are better if given an intermediate temperature.

Cœlogyne cristata is better now for a cool and long rest in a dry atmosphere, so that no difficulty will be experienced with the damping of the flower scapes, which are now making their appearance.

It is mostly necessary at this season to re-arrange the plants to some extent in most of the houses, so that each plant may have the position deemed most suitable for the winter months. The best position for the various species often takes a good long time to find out, but when once done the advantages are soon apparent. In the Cattleya house, for instance, all those that are growing, more or less, should be given the warmest and moistest part, whilst those that are quite dormant should be kept by themselves. The same in the Intermediate house. The Cypripediums and such-like that are growing should be arranged together, and so on through the collection. Take care not to place the Miltonia vexillarias in too moist a part, rather preferring a dry position. Then again, if such kinds as Dendrobium Jamesianum, D. infundibulum, Oncidium cheirophorum, Nanodes Medusæ, Masdevallia tovarensis, M. Shuttleworthii, M. Chimæra, &c., have been summering in the coolest house, as is sometimes done, they will now require to be removed back to the Intermediate house. The Anguloas are better if kept at the driest end of the Cool house, and henceforth kept pretty dry at the root. It is better also to find a rather dry position for Epidendrum vitellinum, for if the moisture hangs about them much during winter it cause an unnecessary loss of foliage.

TEMPERATURES.—For the proper winter temperatures a few degrees lower than those mentioned last month may be allowed in very severe weather, but for all ordinary weather it will be best to adhere to those previously stated. I may here again mention the great advantage of using some rough outside covering for the glass during severe frosty weather, as a means of maintaining the required degree of warmth with less fire-heat. When this is done the conditions inside the house will be found to be more favourable to the plants generally.

ONCIDIUM CORYNEPHORUM AND O. LEOPOLDIANUM.

AN exceedingly handsome Oncidium was exhibited at the R.H.S. meeting held on October 24th by E. Ashworth, Esq., Harefield Hall, Wilmslow, under the name of O. Leopoldianum, and was unanimously awarded a First-class Certificate by the Orchid Committee. A similar award was made by the Manchester Orchid Society two days later. I saw the plant on the afternoon of the former date, and immediately recognised O. corynephorum, Lindl., a Peruvian species which has hitherto only been known from dried specimens, and the point was confirmed on comparison of flowers kindly sent by Mr. Ashworth at the close of the Manchester meeting. The plant was purchased by Mr. Ashworth, under the name of O. Leopoldianum, at the sale of the collection of the late G. D. Owen, Esq., of Selwood, Rotherham, about eight years ago, and has not previously

flowered. It was originally obtained from Messrs. Linden, of Brussels, some fifteen years ago.

O. Leopoldianum was discovered by a collector of Messrs. Linden, L'Horticulture Internationale, Brussels, and was described about fifteen years ago, from a dried specimen and a sketch in water colours made by the collector (Rolfe in *Gard. Chron.*, 1890, ii., p. 556). The precise habitat was not recorded. It was remarked :—"It belongs to the Cyrtochilum section, and will stand near O. corynephorum, Lindl. The peduncle is said to attain a length of several mètres, and to bear as many as 300 flowers. . . . Living plants are also introduced, but they have not yet flowered in Europe. When it becomes established in cultivation it will be a great acquisition, on account of its large panicle of flowers, and the contrast of colour it presents to so many Oncidiums. It is dedicated to His Majesty Leopold II., King of the Belgians. O. corynephorum, Lindl., its nearest ally, is readily distinguished by its broadly rounded lip and other characters. It is somewhat curious that the last-named plant, which evidently possesses similar colours, should not have been introduced to cultivation. The reason may be that species of this section are notoriously difficult to import alive, and have only become common during a comparatively recent period. Several other fine species yet remain to be introduced."

A coloured figure was also given in the *Lindenia* (vi., t. 274), this being prepared by the help of the living plants and the collector's drawing. It shows the sepals and petals white, with a large purple disc, and the lip darker purple, with a bright yellow base.

O. corynephorum was described by Lindley, about the year 1838 (*Sert. Orch.*, sub t. 25, n. 1), from dried specimens collected at Moyambambo, in Peru, by Matthews, and from that period nothing further has been known about it until now, when it appears, rather mysteriously, in cultivation as above recorded. It is true that Lindley afterwards added Cyrtochilum volubile, Pöpp., as a somewhat doubtful synonym (*Fol. Orch.*, Oncid., p. 8), remarking—"I have a flower of the original specimen in Pöppig's collections, from Rchb.,"—and still later he added—"Notwithstanding the difference between this character and Pöppig's barbarous figure, I have no doubt it is the same plant as his" (*Part. Fl. Gard.*, ii., p. 129)—but the matter is not so easily disposed of, for that dried flower does not agree with O. corynephorum. It has narrower, more acute sepals and petals, which are more distinctly stalked, while the lip is smaller, more constricted above the base, and the teeth of the crest are markedly different, though the differences are not well brought out in the figure. The sepals and petals are also said to be cinnamon-coloured, with white on the upper half, and the lip rose-purple. It was collected by Pöppig near Cuchero, on

the Cassapillo Mountains, Peru, and was described and figured in 1835 (*Pöpp. et Endl. Nov. Gen. ac Sp.*, i., p. 35, t. 61). This Cyrtochilum volubile must remain for the present as imperfectly known.

Returning to O. corynephorum, we see how it has appeared in an importation of O. Leopoldianum, and the circumstance affords a clue to the habitat of the latter, which was not recorded, though we now know that Bungeroth was the collector. The circumstance suggests that the two species grow together, and are so much alike when out of flower as not to be distinguished. It will be interesting to see what the other plants are when they flower. There are still two with Messrs. Linden, at Brussels, and one in the collection of Sir. Frederick Wigan, at Clare Lawn, but none of them have flowered, which itself is remarkable, considering how long ago they were imported.

The plant exhibited showed the usual scandent habit of the group, and had three pseudobulbs, and a scape about six feet long, with seven side branches and an aggregate of thirty-four flowers. The flowers are about two inches in diameter, and have broadly rounded, undulate sepals, and petals, of a light violet purple colour, shading off to a broad cream white margin, while the lip is suborbicular, and deep maroon-purple, with a bright-yellow base, above which there is a distinct constriction on each side. The crest has three teeth in front, with a few obscure calli nearer the base. The name is given in allusion to the club-shaped column. It is a very handsome addition to the group. The shy-flowering character may be due to weakness, or to the requirements of the plant being at present imperfectly understood.

R. A. ROLFE.

ZYGOPETALUM × BINOTI.

AT the meeting of the Royal Linnean Society of Brussels, held at Brussels on September 7th, a Botanical Certificate was awarded to *Zygopetalum* × Binoti, De Wild., exhibited by M. Binot, of Petropolis. It was discovered by M. Binot in the neighbourhood of Petropolis, with various species of Colax and *Zygopetalum*, and is suspected to be a natural hybrid, though its parentage is at present doubtful, for although approaching *Zygocolax* in some respects it does not agree with either of the hybrids at present known. The pseudobulbs are ovate-oblong, compressed, and bear two linear-lanceolate leaves over a foot long, while the scapes are rather shorter than the leaves, and bear five or six flowers, with uniformly green sepals and petals, and a three-lobed lip, with lanceolate-oblong front lobe, and the colour white, tinged with green, and bearing eight purple ridges at the base.—De Wild. in *Gard. Chron.*, 1905, ii., p. 258. [We should like to see a specimen of this.—ED.]

ODONTOGLOSSUM CRISPUM: A RECORD SEEDLING.

ON page 296 of your last issue you give an account of the flowering of the seedling Odontoglossum × bellatulum by Mr. Crawshay, in three years and five months from sowing the seed, and state that he believes this to be the quickest result yet achieved. In January, 1901, I fertilised a good shaped Odontoglossum crispum Bonnyanum with the pollen of an O. crispum blotched on all the segments. The seed was sown in March, 1902, and the plant flowered in May, 1904, *i.e.*, two years and two months from the time of sowing. The flower produced was a "Bonnyanum," almost a

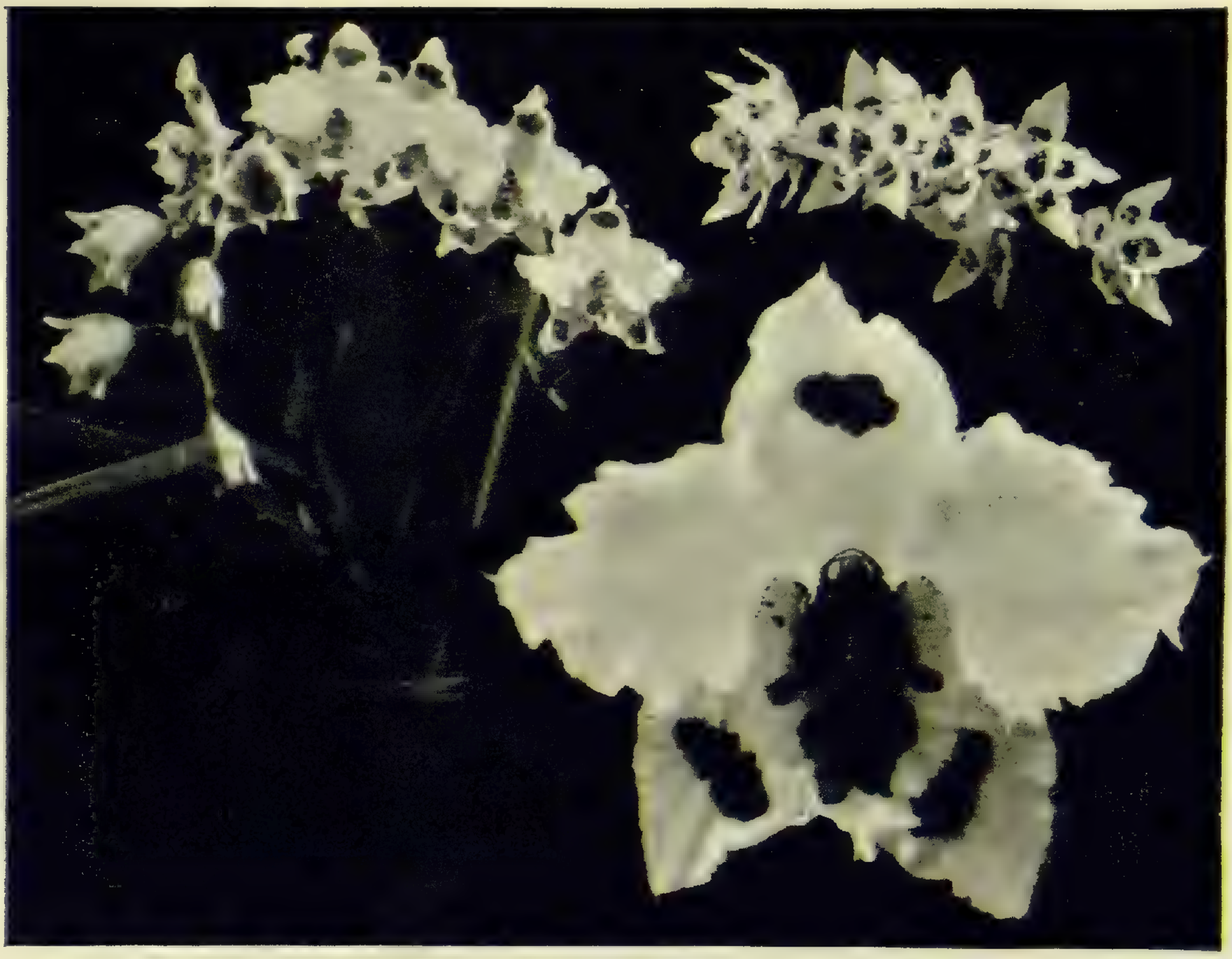

Fig. 69. O. CRISPUM BONNYANUM.

Fig. 70. O. C. SPOTTED VAR.

Fig. 71. O. C. SEEDLING.

facsimile of the seed parent. I enclose photos of the seed parent, the pollen parent, and the resulting seedling.

RICHARD G. THWAITES.

Streatham, S.W.

We have much pleasure in reproducing these interesting photographs, which we have combined in a single group. Such a quick result is remarkable, especially when it is remembered that a few years ago it was considered almost impossible to raise seedling Odontoglossums at all. It evidently constitutes a record in the genus. The illustration is also

interesting in connection with the question of blotched crispums reproducing themselves from seed, respecting which evidence is steadily accumulating. In the annexed illustration the left-hand figure represents the seed-parent, O. c. Bonnyanum, the upper right hand figure the pollen parent—both these being much reduced—while the single flower shows the resulting seedling, whose resemblance to the mother plant is apparent at a glance.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of this Society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on October 24th, when there was a very large and brilliant display of Orchids, the awards including one First-class Certificate, nine Awards of Merit, and two Botanical Certificates. The meeting was distinguished by the appearance of a remarkable Peruvian Oncidium, which has not previously flowered in cultivation.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), staged a very rich group, to which a Silver-gilt Flora Medal was given. It contained some fine forms of Cattleya labiata, three good C. Dowiana aurea, C. Bowringiana, including one of the original clumps, obtained in 1888, C. × Mantinii nobilior, one bearing three racemes, the best with thirteen flowers, C. × Wendlandiana, Lælia Perrinii nivea, the beautiful L. præstans alba, Lælio-cattleya × exoniensis, the beautiful L.-c. × Baroness Schröder, L.-c. × luminosa, the rare L.-c. × fausta, a handsome example of Angræcum infundibulare, some good Dendrobium Phalænopsis and D. formosum, Odontoglossum grande, O. g. aureum, some good O. crispum, a form of Stenoglottis longifolia with spotted flowers, Miltonia vexillaria Leopoldiana, Epidendrum vitellinum, Masdevallia macrura with four flowers, the handsome Brassocattleya × Thorntoni grandiflora, and some good Cypripediums, including three beautiful plants of C. × Maudiæ, two plants of C. Fairrieanum, each bearing a flower, C. purpuratum, the hand-some C. × H. Ballantine, derived from the two preceding, C. callosum, C. × Baron Schröder, and C. × Deedmanianum.

Jeremiah Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), also received a Silver-gilt Flora Medal for a very fine group. It contained a beautiful series of a dozen Cypripedium insigne Sanderæ bearing an aggregate of twenty flowers, three fine C. × Arthurianum bearing three flowers each, a hybrid from C. insigne and C. Victoria-Mariæ, quite intermediate in character, about thirty good Lælia pumila, including the Gatton Park var., with slate-blue lip, some fine Cattleya labiata, including C. l. cœrulea with slate-blue lip, C. × suavior, C. × intermedio-gigas, the

handsome Phaio-cymbidium × chardwarense, and various others. An Award of Merit was given to a good plant of Masdevallia cucullata bearing four flowers.

Elijah Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook). received a First-class Certificate for a superb Oncidium, purchased and exhibited under the name of O. Leopoldianum, Rolfe, but it proves to be the allied O. corynephorum, Lindl. Its history and characters are given at page 334.

W. M. Appleton, Esq., Weston-super-Mare, sent Cypripedium Charlesworthii Weston var., bearing four very large flowers with reticulated dorsal sepal, and two good forms of Lælio-cattleya × bletchleyensis. An Award of Merit was given to L.-c. × Clive Appleton's var., a fine thing, having rose-purple sepals and petals, and the lip deep claret-purple, veined with yellow.

J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. Davis), sent Cypripedium × bingleyense Æneas, a richly-coloured form, Cattleya × Lord Nelson (Harrisoniana × Mossiæ picta), a light purple flower with rich yellow throat, and Cymbidium × Maggie Fowler, the latter exhibited as a natural hybrid between C. giganteum and C. elegans. It is comparable with a good form of C. × Gammieanum, having a dense inflorescense of light buff yellow flowers, lined on the sepals and petals, and blotched on the lip with reddish brown. An Award of Merit was given to the latter.

G. F. Moore, Esq., Bourton-on-the-Water (gr. Mr. Page), received an Award of Merit for Dendrobium Phalænopsis Miss Louisa Deane, a charming blush white form, with some light rose markings in the throat of the lip. The spike bore seventeen flowers. He also sent a pretty yellow form of Cypripedium insigne.

The Right Hon. the Earl of Tankerville, Chillingham Castle, Northumberland (gr. Mr. Hunter), sent two forms of the brilliant little Sophro-lælia × heatonensis, and Cypripedium × Lord Ossulton (× Leeanum virginale × Charlesworthii album), the latter gaining an Award of Merit. It was most like Leeanum in shape, and had a white dorsal sepal, with a tinge of purple up the centre, and a small green basal area, while the staminode was white, tinged with purple, and bore a yellow tooth.

The Marquis de Wavrin, Chateau de Ronsele, Belgium (gr. Mr. De Geest), received an Award of Merit for Cattleya × Marie Henriette de Wavrin (Loddigesii × Rex), a neat and pretty little hybrid having cream-white sepals and petals, and an entire lip, with an orange-coloured disc, and a rose-purple blotch in front. Two plants were shown, at present quite small.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent several very beautiful hybrid Cypripediums, as C. tonsum Westfield

var., with six flowers, C. × Hopkinsianum (bellatulum × Mastersianum), a well-shaped cream-white flower tinged and densely spotted with purple, C. × De Vere (Charlesworthii × aureum), C. × Baron Schröder punctatum, a handsome form figured at page 42 of the present volume, and the handsome C. × Gaston Bultel, figured at page 137. An Award of Merit was given to C. × Germaine Opoix, a very beautiful hybrid which is figured at page 136. The three latter are all Fairrieanum hybrids whose history has recently been given.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), sent a very interesting group, conspicuous in which was a basket of the brilliant scarlet Habenaria militaris, containing about fifteen plants, Miltonia Clowesii, M. candida and its variety violacea, M. Regnellii superba, M. × Lamarcheana, M. × Binoti, and a fine example of Octomeria Baueriana. Botanical Certificates were given to the rare Epidendrum tricolor, Rolfe, and Seraphyta multiflora.

A. E. Bainbridge, Esq., Lynwood, Newcastle (gr. Mr. Bell), sent a good plant of Odontoglossum grande, Lynwood var., bearing two spikes of seven and eight flowers.

J. Buchanan, Esq., Savington Park, Petworth (gr. Mr. Ely), showed a group of a dozen hybrid Cypripediums, several being of unknown parentage, but we noticed forms of C. × Leeanum, × Eyermanianum, × Helios, × Leonæ, and × superciliare.

Mrs. Collingwood, Lilburn Tower, Alnwick (gr. Mr. Lovett), sent a spike of the richly-coloured Dendrobium Phalænopsis Statterianum.

Sir John Edwards-Moss, Bart., sent a good flower of Cattleya Dowiana aurea, having a large amount of yellow on the lip.

D. Fairweather, Esq., Bifrons, Canterbury, sent Cattleya × Browniæ Fairweatheri (Harrisoniana × Bowringiana), a light coloured form.

F. G. Gledstanes, Esq., Taplow (gr. Mr. Milson), exhibited a good specimen of Vanda Sanderiana, bearing two spikes of flowers, with a third spike of buds.

E. Lowther, Esq., Tindalls Park, Bristol, showed a fine specimen of Oncidium Gravesianum, bearing eleven branching spikes, a notable example of good culture.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), sent Lælio-cattleya × Duncani (L.-c. × Gottoiana × C. × Hardyana).

The Right Hon. Lord Rothschild, Tring Park (gr. Mr. Dye), sent an inflorescense of Lælio-cattleya × luminosa superba, a very fine form, having copper-coloured petals veined with dark purple and a deep claret-purple lip.

C. K. Wild, Esq., The Grange, New Eltham, Kent (gr. Mr. Usher), sent a plant of Cattleya Bowringiana, bearing a spike of fifteen flowers.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a brilliant group, to which a Silver-gilt Flora Medal was given. It included some handsome forms of Cattleya × Iris, C. × Fernand Denis, C. × Vulcan, C. × weedoniensis var. Kubelik, some good Brassavola Digbyana hybrids, the pretty little Lælio-cattleya × Alcyone (L. flava × C. Schilleriana), L.-c. × Haroldiana, Masdevallia × Imogen, Vanda cœrulea, Cypripedium insigne, C. × Arthurianum, Odontoglossum × Adrianæ, some good O. crispum, Miltonia × Bleuana, Oncidium ornithorrhynchum, fine forms of Dendrobium Phalænopsis, and various other good things. An Award of Merit was given to Cattleya × Lord Rothschild var. Fairy Queen (Gaskelliana alba × Dowiana aurea), a pretty white form, with an irregular rose-purple band in front of the yellow disc of the lip.

Messrs. Sander & Sons, St. Albans, sent an interesting little group, containing a good plant of Cymbidium × Gammieanum, bearing four spikes, a fine form of Cypripedium insigne, Miltonia candida with six racemes, Vanda Sanderiana, and Cypripedium × G. G. Whitelegge (Euryale × bellatulum), the latter a handsome thing, which received an Award of Merit. It bore a considerable resemblance to the well-known C. × Lawrebel in flower and foliage.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, staged a pretty little group, containing some good Dendrobium Phalænopsis, Cypripedium × Baron Schröder, some good C. insigne varieties, C. × Henry Graves, Epidendrum floribundum, Miltonias, Comparettia macroplectron, Lælio-cattleya × elegans, Sophronitis grandiflora, &c.

Messrs. Stanley & Co., Southgate, also exhibited a pretty little group, containing some good forms of Cattleya labiata, C. × Mantinii, Dendrobium formosum, D. thyrsiflorum, a nice lot of Cypripedium × Arthurianum, the rare natural hybrid Odontoglossum × Duvivierianum, derived from O. maculatum and O. apterum, Vanda cœrulea, a fine form of Oncidium varicosum, &c.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of the Manchester and North of England Orchid Society was held at the Coal Exchange, Manchester, on September 28th last, when there was a very fine display.

A. Warburton, Esq., Haslingden (gr. Mr. Bailey), received a First-class Certificate for Cypripedium Fairrieanum and × Germaine Opoix var. Gaston Bultel. He also sent the handsome C. × Baron Schröder.

Dr. Hodgkinson, The Grange, Wilmslow (gr. Mr. Woore), received an Award of Merit for Cattleya × Lady Ingram, a beautiful hybrid between C. Eldorado and Dowiana aurea.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), sent

the beautiful albino Dendrobium Phalænopsis hololeucum, and D. P. Lee's var.

Messrs. J. Cypher & Sons, Cheltenham, received a First-class Certificate for a beautiful hybrid, said to have been obtained from Cymbidium Lowianum and some Phaius (species not stated). They also received a Silver Medal for a very fine group.

A Silver Medal was also given to E. Rogerson, Esq., Didsbury, for a fine group, while Bronze Medals were given to Messrs. Sander & Sons, St. Albans, and Messrs. J. Cowan & Co., Gateacre, and Votes of Thanks to O. O. Wrigley, Esq., Bury, and W. Thompson, Esq., Stone, for groups.

At the meeting held on October 12th, there was a magnificent display of plants, which filled the Hall, and there was also a good attendance of members.

A Gold Medal was awarded to G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Shill), for one of the finest groups yet staged at the Society's meetings. At one end of the group was a batch of beautiful forms of Cattleya labiata, and there was also a fine lot of Cypripedium insigne Sanderæ, the rest of the group consisting chiefly of well-grown Cypripediums, species, varieties and hybrids.

John Leemann, Esq., Heaton Mersey (gr. Mr. Edge), received a First-class Certificate for Cattleya × Mrs. J. Whiteley Leemann's var., and an Award of Merit for Cattleya × Lady Ingram var. inversa.

S. Gratrix, Esq., Whalley Range (gr. Mr. G. Cypher), received an Award of Merit for Cypripèdium × Niobe Westonbirt var., while a similar Award went to Z. A. Ward, Esq., for Lælio-cattleya × Ella.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a very brilliant group, to which a Silver-gilt Medal was given. The majority of the plants were hybrids, and conspicuous among them were some brilliant forms of Cattleya × Mantinii and C. × Iris, the latter showing a wide range of variation. First-class Certificates were given to C. Harrisoniana alba and C. granulosa aurifera.

Messrs. J. Cypher & Sons, Cheltenham, also staged a beautiful group, containing some excellent Phalænopsis amabilis Rimestadtiana, choice Cypripediums, many beautiful forms of Dendrobium Phalænopsis, &c. A Silver Medal was awarded.

Messrs. John Cowan & Co., Gateacre, received an Award of Merit for Cypripedium × Hoyleanum superbum.

Messrs. Hugh Low & Co., Enfield, also obtained an Award of Merit for Cypripedium × grandiflorum.

Messrs. Sander & Sons, St. Albans, and Messrs. A. J. Keeling & Sons, Bradford, also staged interesting little groups, the former being noteworthy

for the presence of several beautiful hybrids, and the latter for a plant of Cypripedium Fairrieanum.

The meeting held on October 26th did not produce such a good display of plants as the preceding one, but there were a few nice groups, including one from G. W. Law-Schofield, Esq., in which were some very good Cypripedes. A Silver Medal was voted to this group.

Messrs. J. Cypher & Sons, Cheltenham, also made a nice display of plants, in which were several fine forms of Cattleya labiata, C. × Mantinii, and Dendrobiums. A Silver Medal was awarded.

Messrs. Sander & Sons, St. Albans, exhibited some very choice plants, principally hybrids.

Votes of Thanks were awarded to Messrs. A. J. Keeling & Sons, Mr. W. Holmes, and Messrs. Stanley & Co., for various exhibits.

First-class Certificates were awarded to Odontoglossum × waltonense —a beautiful hybrid between O. crispum × O. polyxanthum, certainly the best of its kind yet seen—from W. Thompson, Esq.; to Oncidium Leopoldianum, from E. Ashworth, Esq.; to Cypripedium Fairrieanum, from W. Farrer, Esq.; and to C. × Niobe Westonbirt var., a very charming form—which was only voted an Award of Merit at the previous meeting—from E. Rogerson, Esq.

Awards of Merit were given to Dendrobium Phalænopsis var. Schrœderianum, from E. Ashworth, Esq.; to Cattleya × Vigeriana (labiata × Dowiana aurea), and C. × Hardyana Hazelborne var., from E. Rogerson, Esq.; to Lælia × nigrescens var. albens, from Messrs. A. J. Keeling & Sons; to Cypripedium × Trafalgar, and C. × Olga Bagshawe × (xœnanthum × callosum), from Messrs. Sander & Sons; and to Cattleya labiata var. Coldreyi—a pale variety with faintly-coloured lip—and C. labiata var. Dawn, from Messrs. Stanley & Co.

A. Warburton, Esq. Haslingden, exhibited a hybrid supposed to be between Lælia Digbyana × Cattleya Mossiæ var. bellissima, but the Committee could not accept the parentage.

SOCIETE ROYALE LINNEENNE DE BRUXELLES.

AT the meeting held in the State Botanic Garden, Brussels, on September 7th, there was a fine display of Orchids, and Certificates of Merit were given to groups exhibited by MM. E. Lambeau, of Brussels, and Duchesne et Lanthoine, of Watermael. Certificates of Merit were also given to about twenty-five individual plants, and among them Cattleya × Bowringiano-Schilleriana, from M. Lambeau; Cypripedium × Nuyensii (Rothschildianum × Boxallii), and C. × Spicero-Curtisii from M. Draps-Dom, Laeken; C. × Firmin Lambeau (C. × Haywood × Charlesworthii), from MM. Duchesne et Lanthoine; C. × Reygaertii (C. × nitens × Lawrenceanum),

and C. × Elvira (C. × Leeanum × callosum), from M. Stepman de Messemaecker, Molembeek. The others were mostly well-known things.

Honorary Mentions were given to seven others, among which we notice Cattleya Aclandiæ × C. Gaskelliana, from Madame Madoux, of Brussels.

ORCHIDS AT GATTON PARK, REIGATE.

A COLLECTION of Orchids which has come rapidly to the front during the last few years, is that of Jeremiah Colman, Esq., situated at Gatton Park, Reigate, under the able management of Mr. W. P. Bound (formerly of St. Albans), which we have recently had the pleasure of inspecting. When Mr. Bound took charge of the collection in 1900 there were three Orchid houses; now there are a dozen, containing all the most recent improvements, and we were much struck with the excellence of the culture shown in every department. The following notes were taken during a somewhat hasty visit, and may be presented in the order in which they were taken.

The Cymbidium house was first visited, and here we noted two fine plants of C. Tracyanum, bearing three spikes each, also a good C. elegans. A fine plant of C. × Winnianum was producing seven spikes, but the flowers were not yet expanded. Two plants of C. grandiflorum were also in bud, and Mr. Bound remarked that its culture gave no trouble, as it flowered every year. Several capsules were also observed, and lots of seedlings in various stages, some of them about four years old. Good plants of C. × eburneo-Lowianum crossed with both the original parents were pointed out, also C. × eburneo-Lowianum crossed with Tracyanum, these being the earliest crosses, and the result should be interesting.

A Cypripedium house came next, containing a select collection, of which a good many were in flower. We were particularly struck with thirteen good plants of C. insigne Sanderæ, which had all been propagated since 1900 from a single plant with four leaves. And they were strong, vigorous plants, bearing an aggregate of twenty fine flowers, the best plant carrying four. Other good forms of C. insigne were represented, yellow and spotted, and a variety called W. P. Bound having the spots replaced by a brown marbling. Three plants of C. × Arthurianum bore an aggregate of nine massive flowers. C. × Leeanum Bourton var. is characterised by having a large wavy dorsal sepal, spotted in the usual manner. C. Victoria-Mariæ × insigne maximum was just expanding, and promised well, being quite intermediate in character. A pretty light form of C. × Thorntoni, obtained from C. superbiens × insigne Sanderæ may be called var. delicatum, being yellowish white, lightly spotted with purple on the petals. This and the

preceding were raised in the collection of G. F. Moore, Esq., Bourton-on-the-Water. C. villosum × insigne Sanderæ had also given a good form of C. × nitens, having a green dorsal sepal, obscurely marbled with brown, and with a broad white margin. C. × Boxallii × Rothschildianum also carried four good flowers of intermediate character, and another noteworthy hybrid was C. × memoria-Moensii with a two-flowered scape. All the plants had been grown cool with C. insigne, and were in thriving condition and bearing a fine crop of flowers.

In an Intermediate house we noted over a dozen plants of Lælia pumila flowering very finely, besides the varieties magnifica and one called The Queen, an enormous, very richly-coloured flower. The Gatton Park variety, with its slaty blue lip, formed a remarkable contrast. Near by were plants of L. Dayana, L. autumnalis alba with a spike pushing up, and a lot of white L. anceps throwing up well. Some good Cattleya labiata were just beginning to flower, and Mr. Bound pointed out a good batch of white and blue-lipped forms of C. intermedia, of course not then in flower. Miltonia Regnellii citrina was remarkable for its light yellow colour, and there was also the purple-lipped Gatton Park variety which received an Award of Merit from the R.H.S. on September 26th last.

In a moist, shady corner of an adjacent corridor was a plant of the rare and beautiful Arachnanthe Cathcartii showing a spike. It has flowered for three successive years, but only succeeds in this particular spot.

The Odontoglossum house was very interesting, the plants being in thriving condition, and included a large number of seedlings; from eighteen months old and with leaves six to eight inches long down to those only just germinating. Young seedlings of Odontioda × Vuylstekeæ were pointed out, and various other crosses will be heard of later on. We noted a plant of Cochlioda Nœtzliana bearing half a dozen capsules, and a similar number on Odontoglossum Edwardii. In flower we noted a good form of O. Uroskinneri, also good examples of Masdevallia cucullata and M. Davisii.

In a Warm house were various good forms of Dendrobium formosum and D. Phalænopsis in flower, also the handsome but mysterious Phaio-cymbidium × chardwarense. Mr. Bound, like ourselves, has never seen anything approaching it, and the experiment should certainly be repeated.

A Cattleya house contained some good C. Bowringiana in bud, some C. bicolor in flower, and, in short, a good general collection in robust health. Hybridising was again well to the fore, as there were many capsules, in one case four on the same plant. A good many crosses with white forms of Lælia anceps have been made, but on making the suggestion that C. bicolor should be crossed with L. pumila, in the hope of raising the natural hybrid Lælio-cattleya × Binoti, we learnt that the seedlings from that cross were already well advanced.

An adjacent house here had three rows of fine Dendrobiums suspended from the roof, and Spathoglottis on the back wall, a few being in flower.

Then followed what may be termed four Hybrid Cattleya houses, the first of which contained some good things in flower, as C. × Minerva, a very fine C. × Mrs. W. J. Whiteley, several good C. × Browniæ, and C. × intermedio-gigas, a beautiful purple flower with a large amount of yellow on the disc. We noted also a good Lælio-cattleya × Amelia, some good Cypripedium Charlesworthii, and the charming C. × Olivia, while Mr. Bound pointed out several seedlings of Lælia præstans true, being obtained in this way to increase the stock.

The three other houses mentioned may be described as first, second, and third year plants, being twelve months in advance of each other. There were four bays in each house, and the seedlings were legion and in the most thriving condition. They included C. Dowiana × Lælia pumila Gatton Park var., L. Jongheana × L. anceps var. Dawsoni, Epidendrum ciliare × Diacrium bicornutum, Cœlogyne speciosa × C. cristata alba, the latter sown in June, 1901, and not an easy plant to grow. But we must pass on, merely adding that Cattleya superba was in flower, and that Cypripedium niveum was growing like a weed, suspended from the roof.

A Dendrobium house contained a lot of fine large seedlings of flowering size, with many others in all stages. Some D. × Socius raised here had stems four feet long. D. × Cassiope was already in flower. Mr. Bound remarked that he crossed D. nobile Ballianum with D. × Rolfeæ roseum, and that of about fifty which had already flowered all looked like typical D. nobile. Albino forms of D. Wardianum, crassinode, and nobile were pointed out, and we noticed that propagating of some choice forms was going on by cutting up the old stems.

Lastly must be mentioned the Calanthe house, full of sturdy plants in robust health. They have been grown entirely without manure, and will keep up a supply of bloom from November to February.

There is evidence of rapid progress everywhere, but particularly in the raising of hybrids, which is carried on with conspicuous success, and we must congratulate Mr. Colman and his able gardener on the excellent condition of the collection generally.

ORCHID DISEASE.

IN some Orchid nurseries in Germany and other countries the majority of the plants of Vanda cœrulea are just now suffering from a disease, the causes of which have hitherto been quite unknown. The leaves develop dark-brown blotches, which grow larger and larger, and at last bring about the destruction of the whole plant. Apart from the actual damage that

occurs, the unsightly appearance of the plants attacked is a matter of no small importance. By the kindness of Mr. Beyrodt, of the well known Orchid nursery at Marienfelde, near Berlin, I have been enabled to make some observations with regard to this disease. I found four different fructifying fungi on the diseased leaves that I examined. By inoculating healthy plants I discovered that one of them, a species of Glæosporium, is the exciting agent of the disease now under consideration. It is to be considered that the fungus has been imported, as fruits of this species have been found upon newly-obtained plants of Vanda cœrulea. The parasitical Glœosporium that appears on Vanda cœrulea differs from other species of this genus that have hitherto been described in having more slender and narrower spores (conidia), and this inclines me to the opinion that this fungus is a new species. I therefore name it, in honour of Mr. Beyrodt, Glœosporium Beyrodtii.—H. Klitzing, in *Gard. Chron.*, 1905, ii., p. 259.

NATURE v. THE ORCHID GROWER.

HAVING spent the last week in October in visiting some of the famous Orchid collections in Lancashire and Yorkshire, your readers may be interested in an observation or two on what I saw there. It was my first visit, but I had been prepared by friends to expect surprises. I found them in abundance. The collections generally may be termed commercial, money value rather than intrinsic beauty of flower or form being the quality most sought for. Some amateur proprietors frankly owned to making a business of Orchid growing, and boasted of their profits in buying and selling. After all, these are the men who make the running, not merely in trading, but in cultural skill. They must grow these high-priced Orchids well and grow them quickly, and generally they succeed in a surprising degree.

The end of October should be resting time for the majority of Orchids. One of the commandments of the Orchid grower is:—"Water should be applied according to the season of the year, withheld in winter, given copiously during active growth." So far as I could see and hear, the northern grower pays no heed to this commandment. His houses were as warm, as moist, and the compost as wet, as though it were May, and when I hinted that it was risky, I was laughed at as being one of the old school who believe that Orchids should be half starved for about half the year. "Keep them going," said a very successful grower, "they will rest when they need it, but generally they never do need it." "Then what are pseudo-bulbs and fleshy leaves for?" I asked. "To enable the plants to support the trying conditions imposed on them by nature, but no more necessary to their welfare than a water famine is to that of a camel"—was the prompt answer.

I am bound to admit that the condition of the plants supported this view, which, after all, was stated many years ago by Dr. Lindley, when he said of Orchids in rest in nature, "In none can such insulation be considered as the state of existence which suits them best, but merely as one they are enabled to endure."

I was assured, and, also, satisfied myself, that this treatment resulted in two growths in the time that mine would produce one, and that the winter's rest was oftener than not taking off the plant all the flesh put on during the summer. "See that the compost is of the right quality (chopped oak leaves, peat, or polypodium fibre and sphagnum in equal parts), look carefully after ventilation (invariably bottom), make the most of the sun heat and light in winter, never let the compost get dry, and you will find Orchids much happier than ever they were with the so-called rest, usually a debilitating fast." I never saw better Cattleyas, Lælias, Odontoglossums, Oncidiums, Sophronitis, Epidendrums, Trichopilias, Phalænopsis, and Cypripediums than I saw in these Northern gardens.

Is nature's way the wrong way after all? We have ceased to follow her in the treatment of many garden flowers and fruits, with the result that nature is left a long way behind. It is certain that she cannot grow seedling Orchids as they are now grown by the up-to-date breeders, whose actual successes in cross-breeding are beyond the dreams of the Orchid fancier of twenty years ago; and I see no reason why the grower who studies the plants rather than nature should not go many better than she does. I am afraid that some of us are falling behind, owing to a belief that nature's way is the best way, in regard to Orchids at any rate. Nature's aims are not ours. Gardening is "an art which doth mend nature, change it rather."

W. WATSON.

[Here is matter for a very interesting discussion, which at present, perhaps, deals chiefly with the question of "Rest" for Orchids, and we hope that our readers will favour us with their opinions on the subject. —Ed.].

MR. WARNER'S HYBRID CYPRIPEDES.

I READ your notes on Mr. Warner's hybrid Cypripedes (p. 291) with considerable interest, for, of the six enumerated, I happen to have five in my collection, including the somewhat scarce Cypripedium × discolor. Three plates have appeared in the *Dictionnaire Iconographique des Orchidies*, having been pictured by M. Goossens from flowers sent to him by me, viz., Cypripedium × politum, C. × Williamsianum, and C. × chloroneurum. The plant of C. × discolor was bought by me from Mr. B. S. Williams in November, 1889, and since then it has frequently flowered with me in the

winter months. I am sorry to say that this year's spike came to grief, but if it flowers again next winter I shall have great pleasure in sending you the bloom. It is much richer in colour than any of the others, and really a pretty flower though small. C. × melanopthalmum appears to me to be merely an inferior form of C. × politum. C. meirax, I do not possess.

REGINALD YOUNG.

Liverpool.

[It is interesting to find that C. × discolor is not lost, and as the plant mentioned came from Mr. B. S. Williams at the period named it is evidently authentic. As it is the only one of the series which has not been figured we hope that Mr. Young will have a flower for M. Goossens as well as one for ourselves.—ED.]

A few flowers are also sent from the collection of E. F. Clark, Esq., Chamonix, Teignmouth, in the hope of further elucidating the question. A flower of C. × melanophthalmum, purchased as such, and evidently authentic, is accompanied by a second flower, obtained by crossing C. × Harrisianum nigrum with the pollen of C. venustum. Though not identical the two have many characters in common, and are evidently forms of the same hybrid. In both the influence of venustum preponderates, this being the more obvious in the second case because a flower of the actual seed parent, C. × Harrisianum nigrum, is also enclosed, and is much larger and darker in every respect. The seedling, however, which was obtained from a cross made in March, 1899, and sown the following year, will probably improve as it becomes stronger. Mr. Clark points out certain differences between the two, but we believe they are accounted for by the well-known tendency of hybrids to vary. This point, however, will probably be more apparent later on, for Mr. Clark adds :—" I have other seedlings with varying foliage, and they will be interesting."

Three other venustum hybrids are also sent, to show the way the characters of that species come out. They are C. × auroreum, C. × Crossianum, and C. × Violetta, the second parents being, respectively, C. Lawrenceanum, C. insigne, and C. × nitens Sallieri. C. × Violetta naturally bears a considerable resemblance to C. × Crossianum, but has less white and fewer spots on the dorsal sepal, with considerably darker petals. They are really sent to show the effect of replacing half the insigne influence by C. villosum, and the effect is just as might have been anticipated, down to the increased villosity of the ovary. C. × Violetta may be described as intermediate between C. × Crossianum and C. × Measuresianum, and the intercrossing of these two should yield a very similar hybrid, an analysis in each case giving half venustum and one-quarter each insigne and villosum.

THE HYBRIDIST.

CATTLEYA × APPLETONI.—This is an interesting and beautiful hybrid raised in the collection of W. M. Appleton, Esq., of Weston-super-Mare, from Cattleya elongata ♀ and C. Dowiana aurea ♂. The hybrid most resembles the seed parent in the shape and colour of the flower, but the peduncle is not elongated as in that. A flower from each of four seedlings is sent, showing a certain amount of variation. The sepals and petals are about twice as broad as in C. elongata, and less undulate, the colour varying from reddish-rose to bronzy-brown. The lip is strongly three-lobed, with the front lobe considerably enlarged—the four forms ranging from one and a half to two inches broad—and the colour is rich rose, with a little yellow suffusion on the isthmus, but no appreciable yellow veining. The petals vary from an inch to an inch and a quarter broad. It is a most promising hybrid, most comparable with C. × Chamberlainiana, in which, C. elongata is replaced by the allied C. Leopoldiana. It will be interesting to see what the inflorescence is like when the plants become strong, as the long many-flowered peduncle of C. elongata cannot fail to exert some influence. It may be interesting to add that Mr. Appleton enclosed a flower of the actual seed-bearer, which has now become rare in collections. It has the characteristic undulated, bronzy sepals and petals, with a bright rose-purple lip.

CATTLEYA × AURORA.—Another charming little hybrid is sent from Mr. Appleton, obtained by crossing C. luteola with the pollen of C. Dowiana aurea. The flowers are considerably larger than in C. luteola, and very different in colour, the sepals being two inches long, and pale rose-pink, and the petals similar, but becoming darker towards the margin. The lip is entire, and of an intense purple-crimson with two yellow eyes in the throat. It is really most comparable with a miniature C. Warscewiczii, with about half expanded segments. The characters, however, are apparently due to the combined influence of C. luteola and C. Dowiana aurea. The flowers may become larger with increased strength.

It is not surprising that there should be much repetition in the raising of hybrids, as a promising cross may be raised in several collections, often at about the same period, but we must strive to avoid duplication of names as far as possible. We are pleased to find that many others have the same feeling, and frequently enquire whether such and such a cross has been already raised. Three interesting seedlings are sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury. Paphiopedilum tonsum × insigne maximum is a large and well-spotted flower, the spots being numerous on the petal and dorsal sepal. It is a form of P. × Krishna. A second form of the same was derived from P. tonsum × insigne Sanderæ,

and is rather larger and paler, with fewer spots on the petals, but more numerous and smaller on the dorsal sepal. P. × Io var. Argonaut is the result of crossing P. Argus with P. Lawrenceanum atrorubens, and has an increased amount of crimson in the dorsal sepal. In fact, it is a handsome thing, and of good shape, with large blotches on the petals, and a very dark dorsal sepal and lip.

A handsome Cattleya is sent from the collection of Reginald Young, Esq., of Liverpool, which Mr. Young remarks was purchased from Messrs. John Cowan & Co., in February, 1904, "the parentage given being Cattleya Mendelii × C. labiata, which to all appearances is correct. The plant had two leads, and one flowered last March, with a single bloom, the other lead is now in flower, carrying four blooms." The sepals and petals are light rosy lilac, and the front lobe of the lip rich purple crimson, while behind this extends the yellow disc, bearing numerous reddish radiating lines to the extreme base, and on each side of the throat occurs a large white area. A name for it is suggested, but we should like to know the raiser and more of the plant's history.

NOTES.

Two meetings of the R.H.S. will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during November, on the 7th and 21st, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on November 9th and 23rd. The Orchid Committee meets at noon, and the exhibits are open to inspec tion from 1 to 3 p.m.

Two beautiful Odontoglossums are sent from the collection of R. le Doux, Esq., West Derby, Liverpool, The first is O. × loochristiense var. Mrs. R. le Doux, which received an Award of Merit from the Manchester Orchid Society two years ago. The spike now bears eleven flowers, of excellent shape, and the sepals and petals are very regularly spotted with red-brown on a light yellow ground, while both the lip and the wings of the column show the influence of O. triumphans very clearly. The other is a large and beautiful white form of O. crispum, blotched on the lip, from a spike of fifteen flowers. There is a tinge of rose in the sepals and an occasional spot. Both are excellent examples of good culture.

We recently saw a fine specimen of Lælio-cattleya × exoniensis in the Burford Collection, showing several flower spikes, and Mr. White pointed out that it was part of the original plant, and had been there since

1867. Close by was a good specimen of the handsome Neomoorea irrorata, which was originally part of the Kew plant.

Cypripedium guttatum is a very beautiful little species which is very rarely seen in cultivation in this country, though we know that it has been successfully grown in the collection of H. J. Elwes, Esq. A photograph in a recent issue of *Die Gartenwelt* shows a charming group of plants in the Botanic Garden at Jena, bearing no less than twenty-five blooms (vol. x., pp. 11, 12, with fig.)

ORCHID PORTRAITS.

CATTLEYA HARRISONIÆ.—*Gard. Chron.*, 1905, ii., p. 267, fig. 100.

CATTLEYA × IRIS VAR. HIS MAJESTY.—*Garden*, 1905, ii., p. 240, with fig.

CATTLEYA × IRIS MAGNIFICA.—*Journ. Hort.*, 1905, ii., pp. 334, 335, with fig.

CATTLEYA SCHILLERIANA WESTFIELD VAR.—*Gard. World*, 1905, pp. 832, 834, with fig.

CYPRIPEDIUM FAIRRIEANUM.—*Journ. Hort.*, 1905, ii., pp. 320, 321, with fig.

CYPRIPEDIUM GODEFROYÆ CITRINUM.—*Gard. World*, 1905, pp. 833, 834, with fig.

MORMODES BUCCINATOR, LINDL., VAR. AURANTIACUM, ROLFE.—*Bot. Mag.*, t. 8041.

ONCIDIUM SARCODES.—*Journ. Hort.*, 1905, ii., p. 357, with fig.

SCHOMBURGKIA SANDERIANA.—*Journ. Hort.*, 1905, ii., p. 383, with fig.

TRICHOCENTRUM ALBOPURPUREUM.—*Journ. Hort.*, 1905, p. 352, with fig.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

J.W. The black spots on the Dendrobium leaves are those of the well-known "spot" disease, but this is believed to be due to water on the foliage when the temperature is too low, sometimes the result of drip from the roof. No fungus can be traced as the predisposing cause. D. formosum naturally requires warm treatment.

H.H. Catasetum fimbriatum.

X. A good many of the more distinct varieties of Cattleya labiata have been recorded in previous volumes, and may be found by means of the Index.

J.W. We will report shortly.

Photographs received with thanks: R.G.T., W.P.B., D.B.C.

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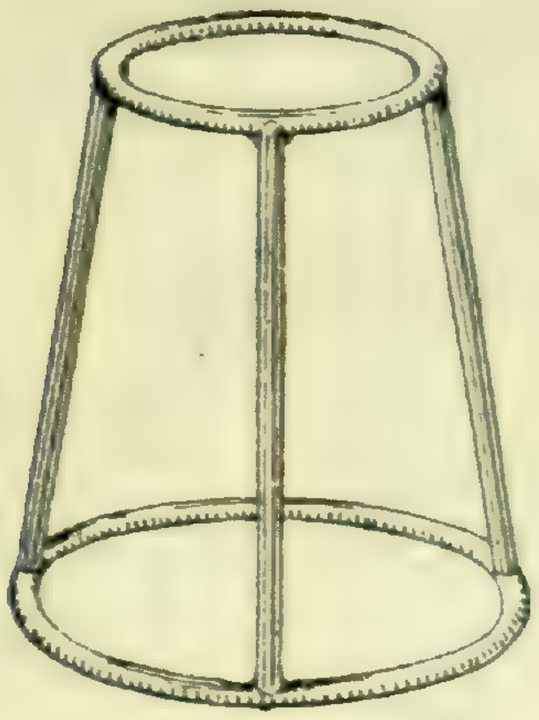

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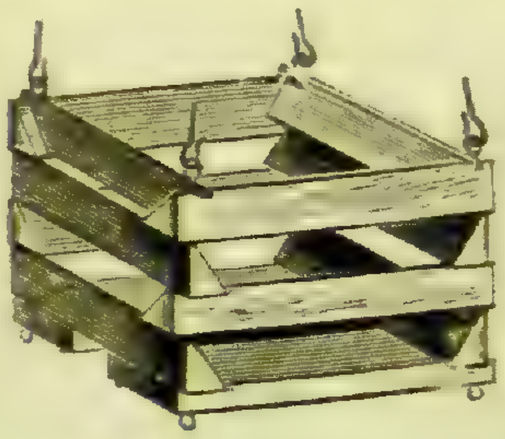

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ROYAL EXOTIC NURSERY,

CHELSEA, LONDON, S.W.

THE ORCHID REVIEW.

VOL. XIII.] *DECEMBER*, 1905. [No. 156.

CURIOSITIES OF HYBRIDISATION.

IN hybridising a number of Orchids one comes across some curious and interesting facts. One, in particular, is the great difference in the time pods take to mature, varying from five to eighteen months, and, rather strangely, among Cattleyas and Lælias the long bulbed ones seem to take the shortest time, and a short bulbed one the longest. Cattleya amethystoglossa, fertilized on February 24th, had a splendid pod of seed ready for sowing in July of the same year (5 months) : Cattleya Schofieldiana, fertilized August 2nd, burst January 15th (5½ months) ; and Lælia Cowanii, fertilized March 5th was ripe early in November (8 months). On the other hand, Lælia pumila, crossed with Cattleya Gaskelliana, took 18 months to ripen its pod; and also crossed with Cattleya gigas, 18 months, though when we used the pumila as a pollen parent on Cattleya aurea the pod was ripe in 10 months.

Amongst Cool house Orchids, Cochlioda Nœtzliana has given us much the quickest results. A flower of this species crossed June 3rd with Odontoglossum crispum, burst December 4th (6 months) ; another fertilized June 3rd, also with crispum, was ripe December 20th (6½ months) ; and one crossed in May with Hunnewellianum was cut in November (6 months). We have never had one take more than 8 months in ripening its seed. Odontoglossum Harryanum comes next. This, fertilized March 5th with Hunnewellianum, was ripe November 3rd (8 months). One crossed February 14th with O. × Wilckeanum was also cut in early November (about 9 months), though two other flowers of the same species, crossed in May with O. × Adrianæ and O. Pescatorei, each took 11 months to mature their pods. Of course, the most general time is about 12 months.

Another striking thing, too, is that many Orchids can be got to set pods one way, when the reverse is a failure, time after time. I have quite readily set Dendrobium crepidatum on D. Brymerianum (and this, by the way, is the only thing I ever did get to set on Brymerianum), but never D. Brymerianum on D. crepidatum, though I have frequently tried. D. Brymerianum sets on D. atroviolaceum, and on D. fimbriatum, but

never the reverse, and I only once got a pod to set on D. Wardianum, though there does not seem any difficulty with it as a pollen parent.

In the Cool house section, I have had Odontoglossum Edwardii carry good pods with O. Pescatorei, O. crispum, O. Hunnewellianum, etc., but never has it been any use as pollen parent. The same with O. Uro-Skinneri and Cochlioda Nœtzliana; they will carry splendid pods, but seem to have no effect in fertilizing other flowers. Sometimes they seem all right for a time, but eventually turn yellow and fall off. I should be very glad to know if anyone has succeeded in using any of these as pollen parent.

Then, too, another peculiarity is that one often gets pods to form, stay on ten or twelve months, and then open, only to reveal emptiness. We had two fine-looking pods on an Odontoglossum Pescatorei, one crossed with O. × Wilckeanum, the other with Oncidium crispum; both stayed on twelve months, and then proved quite empty. This year we set pods on three or four Dendrobiums of the nobile and hybrid section, using pollen of D. Phalænopsis Schroderianum, and all were empty. And on Miltonia Moreliana we have had pods equally useless. After all, however, the failures are comparatively few, and the whole work so intensely interesting, and the results so beautiful, if a little care is taken in selecting the parents, that one is glad to live in the age of hybrids, and not in the days of limitation, so lately left behind.

EMILY THWAITES.

Streatham.

CYPRIPEDIUM FAIRRIEANUM.—It may perhaps be of interest to Orchidists all the world over to know that the habitat of this Orchid is no longer a secret. The locality described in the *Orchid Review* for September, 1905, as the home of this plant is quite correct. The Bhutan hills have to be negotiated at their greatest elevation in the extreme west of that principality, and then into the valley of the Torsa river, or rather, we should say, the head waters of that stream; on the dry, sunny face of precipitous rocks, is where the Orchid is found. A native, who has recently returned from a successful trip to that region, who brought away over one thousand plants of C. *Fairrieanum*, tells us that the elevation is probably over 7,000 feet above sea level, but he was unable to say, with any degree of accuracy, whether that would represent the elevation. Anyway, he had to undergo many hardships before he reached his goal. Of the plants brought by the man in question, some 200 have already been sent to London and sold (privately, we believe), and the balance of the plants will soon find their way to London; so that the market will soon be well supplied with this interesting species, whose habitat has baffled botanical collectors for over fifty years. Its value as a parent will probably continue to keep up the demand for it.—*Indian Gardening*, 1905, p. 756.

ORCHIDS AT BURFORD.

SOPHRONITIS GRANDIFLORA HYBRIDS.

IN one of the cool Intermediate houses at Burford several Sophronitis grandiflora hybrids have, for several weeks, been exceedingly attractive, and the beautiful, brilliant colouring of the flowers has been greatly admired by everyone who has seen them. They are as follows:—Sophrocattleya × Chamberlainiana, S.-c. × Calypso, S.-c. × eximia, Sophrolælia × Gratrixiæ, S.-l. × heatonensis, S.-l. × Veitchii var. Eros, and Epiphronitis × Veitchii. Plants of Sophrolælia × Psyche and S.-l. × Marriottiana are now completing their growth, and will produce flowers later on. All of these hybrids are well worth including in any collection, however select it may be. They are of easy cultivation, causing but little trouble at any time. In addition to those already enumerated, the following may be added, which, if obtainable, would make a first-class representative collection of these lovely hybrids:—Sophrocattleya × George Hardy, S.-c. × Cleopatra, S.-c. × Batemaniana, S.-c. × Nydia, S.-c. × Leemanni, S.-c. × Queen-Empress, Sophrolælia × læta and its var. Orpetiana, S.-l. × Valda, and S.-l. × grangefieldensis. Being small plants they take up remarkably little space.

Shallow Orchid pans or the ordinary flower pot are the most suitable for them, and it is necessary that these receptacles should be well drained. The compost should consist of peat, leaf soil, and sphagnum moss in equal parts, adding a few small crocks and a fair sprinkling of coarse silver sand. Pot each plant with moderate firmness, and suspend them where they will be within a foot of the roof glass. The Intermediate house is the best place for them the whole year round. When growing and rooting freely these plants require only moderate supplies of water at the root, merely sprinkling the surface of the compost whenever it appears dry. For this purpose I use a fine rose watering can, but in dull, damp weather the fine sprayer is sufficient. While the plants are at rest, water is afforded in just sufficient quantities to prevent the pseudo bulbs from shrinking too much, but a slight shrivelling will do no harm. When growing freely, every care should be taken that no water lodges in the young growths, or they, and their precious contents, the flower buds, are liable to turn black and damp off.

Plants of the pretty Epiphronitis × Veitchii, when in a thriving condition, frequently produce small off-shoots, which are attached to the old stems. These small plants, when they commence to push out new roots, may be severed and made up into neat, compact little specimens, and most of them will produce their brilliantly-coloured flowers when properly established.

SOME DWARF ANGRÆCUMS.

The dwarf growing Angræcum distichum, from the West Coast of Africa, is also in bloom at Burford. The plant with several hundreds of its small, pure white flowers, which have a delightful fragrance, is certainly a lovely object. It is an easily grown and free flowering species. Another charming little Orchid is Angræcum pectinatum; its small flowers being also pure white, and produced abundantly. Both plants thrive well in a shady part of the warmest house, and they grow freely in well drained shallow pans, using chopped sphagnum moss, mixing a few small crocks with it for the roots to ramble into. These Angræcums prefer to be kept fairly moist at all times.

DENDROBIUM CŒLOGYNE.

The distinct and curious Dendrobium Cœlogyne is also now flowering. In habit it is like a Bulbophyllum, with large, solitary flowers. The sepals and petals are of a deep green, marked with dark crimson, and the movable lip is deep velvety purple. This plant thrives well in the Cattleya house, and, owing to its straggling habit of growth, it should be fastened on to a teak wood raft, and be suspended in a horizontal position well up to the roof glass. Having nothing but the bare wood for the roots to cling to, the plant should be watered overhead every morning throughout the year.

W. H. W.

NATURE v. THE ORCHID GROWER.

THERE has been a gradual revolution going on in the treatment of Orchids for some years, hardly noticed by some and neglected by a good many. An explanation can be given in one word—HYBRIDISATION. Raising them from seed has taught us how to grow Orchids. We follow them closely from the embryo until they reach the flowering stage. Where their parents come from troubles us but little in the meantime. We look to finding growing conditions here, and these have been discovered without any reference to those prevailing where the parents were reared. The wide-awake Orchid-man has discovered that home-raised seedlings are usurping the place of the imported plants, much to the advantage and general appearance of collections. We hear sometimes, "After all, you can't raise the species itself." Can't we? Why not? We have at the present time a good many species raised true, and so far I cannot see any difference in the vigour of these and the seedling of hybrid origin. Home-raised seedlings love moving on, and they do not like a low temperature in winter. Lælio-cattleya × callistoglossa will flower twice a year—or twice in eighteen months—and romp away irrespective of season. I have found that Odonto-glossum seedlings grow well all the winter, but in a night temperature of 60°! A lower temperature was tried, but they did not grow so quickly, nor

keep so well. We have now over 4,000 of these. Dendrobiums we keep at 60° all the winter, much to their liking. They keep their leaves and roots, but they do not grow until the growing season comes with the lengthening days. The bulbs are plump, with the cuticle taut, and the leaves are thick and green. The house has had no shading since the first week in August, but it has had abundance of air when the temperature was suitable. Somebody took Dendrobiums into a cold house in winter, and everybody followed suit. Imported Cattleyas require (or take) more heat than those that are raised at home. They may be compared to decrepit old-age and impetuous youth.

Was it the number of Orchids of home origin, with their fresh and growing appearance, which stirred Mr. Watson into self-communion?

One question: Is it not the "intrinsic beauty of flower or form" that gives a plant its money value?

The future of Orchids (if not the present) lies in the hands of the hybridiser—and there is no finality to his work.

Streatham. J. M. BLACK.

ORCHIDS FROM CAMBERWELL.

A SERIES of beautiful Orchids is sent from the collection of R. I. Measures, Esq., Cambridge Lodge, Camberwell, by Mr. Smith, part of which were grown at Mr. Measures' country seat by Mr. Wootton. Lælio-cattleya × Ivernia is a very richly-coloured hybrid derived from Lælia tenebrosa and L.-c. × callistoglossa, most like the former in general character. A cross between L.-c. × Gottoiana and L. Perrinii has rosy lilac sepals and petals, and a rich purple lip with a pale throat, in this respect most approaching the second parent. Another richly-coloured Lælio-cattleya is recorded as derived from L. Perrinii × C. granulosa. The lip closely resembles the latter parent in shape, the front lobe being rich purple as well as the sepals and petals, while the side lobes are whitish. Other interesting flowers are L.-c. × Cranstounæ (Harrisoniana × tenebrosa) and Cattleya × Clarkiæ (bicolor × labiata). The Paphiopedilums form an interesting series, and include P. × Unixia (× Harrisianum × Lawrebel), P. × Arthurianum, P. purpuratum, a fine P. × Acis, P. insigne Amesianum and radiatum, the former suffused and the latter striped with brown on the dorsal sepal, instead of being spotted, P. × œno-Spicerianum, P. × Measuresianum, P. × Carrierei (superbiens × venustum), P. × Woottoni (callosum × bellatulum), a handsome thing, and P. × Woden (superbiens × Leeanum), the latter having green petals closely dotted with brown, and a green dorsal sepal with a very broad regular white margin. We have now great variety among winter-blooming Paphiopedilums, and as they suffer from fogs less than most other Orchids they are likely to remain popular.

SPOT ON PHALÆNOPSIS LEAVES.

A SUBSCRIBER writes:—"You will do me a great favour if you tell me what causes those indented spots on Phalænopsis leaves. I have in my care about 600 plants of Phalænopsis, mostly P. Aphrodite, forty-five P. Schilleriana, nineteen P. Stuartiana (fourteen of which I have raised from old roots of the other five plants since last March, some of them having now leaves over three inches long), two P. grandiflora, one P. rosea, one P. Mariæ, one P. × leucorrhoda, two P. Lueddemanniana, and eight or ten P. amethystina. They are all growing in a house used for general stove and greenhouse plants, and seem to like to grow here very well, especially the Schillerianas and the others mentioned, but the P. Aphrodite did not behave quite as well, and it is these that are bothered with that spot. With the help of two strong lenses, I could not detect any trace of thrip on any of the affected plants. Could these spots be caused by the plants getting a chill? Then why should only a few plants get spotted, and the rest, growing side by side, remain healthy? I have tried to prove this latter theory by taking a healthy plant, from a temperature of 80° F., outdoors into a temperature of 45°, leaving it there for six hours, the temperature in the meantime having fallen to 34°, then returning the plant to the house, where the glass registered 75°. The plant was dipped in water before being taken out of the house, and the process was repeated three times in the next two days, but the plant is apparently as healthy as ever to-day, three weeks after the experiment was made. Thrips usually disfigure the young leaves first, but with me it is generally the old leaves that are spotted first, though on some plants the spots appear simultaneously over the entire plants, even affecting the flower spikes in some cases. The spots look yellow at first, then gradually enlarge and swell up, looking like blisters, until they finally dry up, the leaves then appearing as though they had had an attack of small-pox. Any light you can throw on the subject will be much appreciated.

GRAMMATOPHYLLUM SPECIOSUM.

THE "Giant Orchid" (*Grammatophyllum speciosum*) has, says the *Tropical Agriculturist*, been in flower at Peradeniya since the middle of July, and is a most striking and handsome object when in full blossom. It is a native of Malaya, and fully justifies its name, being without a rival as regards size in the Orchid family. The individual flowers, however, are not beautiful, having a greenish-yellow ground, thickly spotted with reddish-brown, each being five to six inches across. The scapes or flower-stalks issue from the base of the stem and grow rapidly to about six feet in length, each bearing from 100 to 130 flowers, the lowest pair of which are always abnormal,

possessing no lip and only a rudimentary column. An interesting peculiarity of this plant is that though by nature an epiphyte or "air plant," it readily adapts itself to terrestrial treatment, and even grows to largest proportions when grown on the ground. As a water-plant, too, it flourishes, as may have been seen from a specimen growing in the Victoria House in Kew Gardens. Its date of introduction to Peradeniya is not known, but it was always treated as an epiphyte until 1896, when it was removed to a specially-prepared mould on the ground. The result was that it flowered twelve months later and almost every year since.

To the above may be added a note by Mr. Ridley respecting plants at Penang and Singapore:—"A plant was brought down from Malacca to Singapore which weighed, with the portion of the tree on which it grew, three-quarters of a ton, and specimens in Penang and Singapore Gardens measure forty feet in circumference. It grows on trees, rarely at any great height above the ground, and often over streams; but when the tree has fallen it often continues to live and grow on the ground. The flowering season is August or September; the scapes are very rapidly developed, and remain in flower for some weeks. Strong plants flower every year; but they require to be full grown before they commence. The capsule is very large, and pendulous; it is oblong pyriform, and about six inches long and three inches thick."—*Journ. Linn. Soc.*, xxxii., p. 336.

Unfortunately, the Kew plant does not flower, though it seems quite strong enough to do so, and the pseudobulbs appear to have reached their maximum development. A suitable climate is evidently a matter of the first importance.

ONCIDIUM CORYNEPHORUM.

(*See* FRONTISPIECE).

THE frontispiece to the present volume represents the handsome plant of Oncidium corynephorum, from the collection of E. Ashworth, Esq., Harefield Hall, Wilmslow, whose history was given in our last issue (pp. 334-336). The photograph reproduced was kindly sent to us by Mr. Ashworth, and represents the plant about a quarter natural size. We believe it was taken by Messrs. Sander & Sons, and it gives an excellent idea of the habit of the plant. The details are very clear in the photograph, but are not so easily traced in the reproduction, owing to the well-known fact that half-tone illustrations cannot be magnified like the original photograph. We need not repeat the details so recently given, but it may be added that two figures have since appeared (*Gard. Chron.*, 1905, ii., p. 340, fig. 130; *Journ. Hort.*, 1905, ii., p. 449), in each case the correct name, fortunately, being adopted.

CATTLEYA BOWRINGIANA HYBRIDS.

WE have received several beautiful Cattleya Bowringiana hybrids from the collection of J. H. Grogan, Esq., Slaney Park, Baltinglass (gr. Mr. Cooper). Mr. Grogan writes:—"These Bowringiana hybrids are quite my favourite Cattleyas, and I am getting together as many crosses as I can. I hope to be able to make about seventeen different crosses this year, mostly with preserved pollen, with a view to lengthen, if possible, the season of flowering. I have found C. Bowringiana a good seed parent, but its pollen almost useless unless used quite fresh, and then none too powerful." The flowers sent are C. × Mantinii, C. × Portia magnifica, a fine form of the hybrid with C. labiata, C. × Wendlandiana, of which C. Warscewiczii was the pollen parent, and C. × John Baguley, the reverse cross of C. × Mrs. J. W. Whiteley, and having broad segments and lip, of the richest crimson-purple, with a large amount of deep yellow on the disc. Respecting this Mr. Grogan remarks:—"The plant shows much more of the labiata type of bulb than is the case with most C. Bowringiana crosses, probably because C. × Hardyana was the seed parent." There is also a flower of Lælio-cattleya × Parysatis, in which the Bowringiana influence is chiefly apparent in the flower, but Mr. Grogan remarks that the pseudobulbs point to Lælia pumila as one of the parents. Lastly flowers of C. Bowringiana itself are enclosed for comparison, one of them being a large and very richly-coloured form.

STENOGLOTTIS.

THE genus Stenoglottis is small, containing two species, both native of South Africa. They are ideal plants for amateurs, and for anyone who enjoys something out of the ordinary line. Cool treatment is needed, among the Odontos. or Masdevallias being suitable. The tuberous roots delight in a mixture of fibrous loam and leaf mould, adding a little sand or finely broken crocks. About six roots will be enough for a 7in. or 8in. pan, which should be well drained; when grown in this way the effect is much better than single pots. Dryness at the root must be avoided, owing to the plants being evergreen; although many of the leaves will fall off in winter. Annual potting ought not to be practised, better results being obtained the second year after this operation. Stenoglottis longifolia is the more robust, producing spikes of light purple flowers which last in perfection about two months, the tufts of green leaves being an additional charm. The variety alba is pure white. S. fimbriata is somewhat rare, and a smaller growing plant; the flowers are dark purple, and the spikes usually 10in. to 12in. high.—T. ANSTISS, in *Journal of Horticulture*.

ODONTOGLOSSUM × VUYLSTEKEÆ.

AT the R.H.S. meeting held on November 7th last, a remarkably handsome Odontoglossum was exhibited by M. Ch. Vuylsteke, Loochristi, Ghent, under the name of O. × Vuylstekeæ, and was unanimously awarded a First-class Certificate. A flower was afterwards sent by M. Vuylsteke, which was photographed by Mr. E. C. Hart, the photograph being here reproduced, natural size. M. Vuylsteke writes that it is quite impossible to tell the parentage—it might be O. × Rolfeæ and crispum or × ardentissimum, or indeed something else, and we can only regret that the particular cross which has yielded a hybrid of such sterling quality should not be known. One can easily trace O. Harryanum and O. crispum, but apparently

Fig. 72. ODONTOGLOSSUM × VUYLSTEKEÆ.

some other influence has been at work, and the colour immediately recalled O. × Vuylstekei. It is evidently a secondary hybrid, and possibly other seedlings may yet solve the question of parentage. We append an article just received from an enthusiastic Odontoglossum hybridist, which precludes the necessity of further description.

When Odontoglossum × ardentissimum appeared at The Temple Show in 1902, the Orchid world, especially the Odontoglossum section of it, was justly astonished and delighted at the appearance of the marvellous new

hybrid, which created such a surprise, I might say a furore. Something approaching an almost solidly-blotched Odontoglossum had at last been given to us by M. Charles Vuylsteke.

This wonder was only of two years' duration, when it was eclipsed by the appearance, from the same source, of the "Scarlet Odontoglossum," in the guise of Odontioda × Vuylstekeæ, which glorious little Orchid I had the pleasure of naming at The Temple Show in 1904. At this totally unexpected début the Orchidomaniacs became more than before astonished, and one and all wondered what was to come next. I did hear one opinion that it was only a question of time when the scarlet crispum would come to gratify us; but that has not come yet, though there are hopes that it may.

They had not even two years to wait, for at the R.H.S. meeting held on November 7th, 1905, M. Vuylsteke again follows up his extraordinary success by showing the almost self-coloured deep crimson-purple Odontoglossum × Vuylstekeæ, whose sepals, petals, and lip all vie with each other which can most assume the colour of the parents. Once again I had the great pleasure of dedicating this marvellous production to Madame Vuylsteke, whose name, with that of its raiser, will never be forgotten while Odontoglossums live.

It is almost impossible to do justice in black and white to a crimson-purple flower, but a description, with the aid of the illustration, will enable those who did not see this great beauty to appreciate it.

The whole of the sepals down to the very base, with the exception of the little bars and point, which are white, are rich crimson-purple. The petals are similarly coloured, and even richer in tone. The lip, which is a most beautiful segment, has (beginning from the outside) a narrow white margin, which extends from midway down the sides around the apex; then follows a line of spots (sometimes seen in a fine × Adrianæ) all around it, curiously enough becoming the actual margin where the white margin ends half way down it. Inside this line of spots is another white line extending all round the lip, from shoulder to shoulder. Then inside this is an almost solid area of deepest crimson-brown. It is so much covered that the great horseshoe form of it is almost blurred into and among the heavy spots upon the yellow area in front of and around the crest and on the yellow teeth. The column is deeply coloured, crimson-brown posteriorly and less so on its under side. The anther cap is white, the central point among a gorgeous arrangement of intense purplish crimson-brown. The wings are white, small, denticulate, and slightly spotted. The back of the flower is equally handsome, all the colour being there as in the front, excepting wide lineal areas of greenish white on the sepals and white on the petals.

Such is a fair description of one of the eight blooms, almost all "alike-

as two peas," that this extraordinary plant carried on its four bulbs—the grandest hybrid Odontoglossum yet produced.

As to its parents, which M. Vuylsteke cannot state, it is rather a complex matter to be absolutely certain. By analysis, certain things in its composition become almost a certainty. There are O. crispum Franz Masereel and O. Harryanum, but how they are united is a matter of greater difficulty to elucidate. I feel sure they are not the only parents, and that it is not a crispo-Harryanum with these as parents. O. × ardentissimum and × crispo-Harryanum might be possibly good candidates in a vote upon it; but there is a combination that presents itself to mind that seems reasonable, that being × Vuylstekei and × crispo-Harryanum, this latter being derived from Harryanum and crispum Franz Masereel.

Be it what it may, O. × Vuylstekeæ is M. Vuylsteke's grandest production, and as no doubt we shall try to prove its parentage by facts, I shall be very pleased if I personally can produce something fairly like it, and glad if any one else can equal it, while by that time I shall expect to see the doyen of Odontoglossum hybridists producing something that will put my present dedication in the shade. Now is the time for us English Odontoglossum hybridists to cry, and act on it, England, wake up!

DE B. CRAWSHAY.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of the R.H.S. was held at the Royal Horticultural Hall, Vincent Square, Westminster, on November 7th, when there was a magnificent display of Orchids, and the awards consisted of two Gold and five other Medals, two First-class Certificates, and four Awards of Merit.

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whitelegge), staged a superb group, to which a Gold Medal was awarded. It contained a remarkable series of Cattleya labiata, including the following white varieties:—alba, Amesiana, Angel, Ariadne, Etona, G. G. Whitelegge, Lowiæ, Penelope, and R. I. Measures, all in excellent condition. There were also some fine forms of Lycaste Skinneri, including the varieties alba and Enchantress, L. × hybrida, the beautiful yellow Oncidium Forbesii Bradshawiæ, Lælio-cattleya × Decia alba, L.-c. × Ingrami, L.-c. × Haroldiana, L.-c. × John Bradshaw, and various other fine things. A First-class Certificate was given to Cattleya labiata Hercules, an enormous form, of model shape, and typical in colour.

Jeremiah Colman, Esq., Gatton Park, Reigate (gr. Mr. Bound), also received a Gold Medal for a magnificent group, of about fifty feet in length. In the centre were some fine plants of Cymbidium Tracyanum, C. × Winnianum, and Oncidium varicosum, and on either side were groups of

fine forms of Cattleya labiata, hybrids of Lælia Perrinii, Cypripediums, including a selection of yellow forms of C. insigne, good forms of Cattleya × Mantinii, &c. Among other noteworthy plants may be mentioned a white form of Lælia Perrinii, Cattleya labiata cœrulea, C. × Portia, and the handsome Phaio-cymbidium × chardwarense.

S. Briggs-Bury, Esq., Bank House, Accrington (gr. Mr. Wilkinson), sent the large and very richly-coloured Cypripedium × triumphans (× Sallieri × œnanthum superbum), which received a First-class Certificate, and Odontoglossum × Vuylstekei, Bank House var., a fine form heavily blotched with red-brown.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent a charming little group, containing the very beautiful Lælio-cattleya × Norba superba, L.-c. × Miss Gilberta Blount (C. × Mantinii × L.-c. × Ingrami), Cattleya × Mantinii nigricans, a very dark form, C. labiata Minnie, a large richly-coloured form, and Cypripedium × Abraham Lincoln (Niobe × orphanum). Awards of Merit were given to Cattleya × Peetersii var. Mrs. Francis Wellesley (labiata × Hardyana), a very richly-coloured form of perfect shape, and Cypripedium × Sanacderæ (× Sanactæus × insigne Sanderæ), most like the latter parent, and with no trace of spotting on the dorsal sepal.

Norman C. Cookson, Esq., Oakwood, Wylam (gr. Mr. Chapman), sent Lælia × De Geestiana (L. flava × Jongheana alba), having white sepals and petals.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent an improved form of Odontoglossum × crispodinei.

Major G. L. Holford, Westonbirt, Tetbury, (gr. Mr. Alexander), sent Cattleya × Mrs. Pitt var. delicata, a pretty sulphur yellow form, tinged with rose-pink.

R. I. Measures, Esq., Camberwell (gr. Mr. Smith), sent a form of Odontoglossum crispum bearing forty-two flowers on a branched spike, Cypripedium × Unixia, C. × Charles Richman, and some hybrid Cattleyas and Lælio-cattleyas.

F. M. Ogilvie, Esq., The Shrubbery, Oxford (gr. Mr. Balmforth), sent Cattleya × Portia magnifica, with flowers nearly rivalling the C. labiata parent.

Leopold de Rothschild, Esq., Gunnersbury House, Acton (gr. Mr. Hudson), showed a basket of the beautiful orange-scarlet Epidendrum vitellinum.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), sent Odontoglossum × Vuylstekei Schrœderianum, a richly-coloured form, and O. Bingelianum, of the O. × crispo-Harryanum class.

The Marquis de Wavrin, Chateau de Ronsele, Ghent (gr. M. De Geest), sent Lælia pumila Queen Alexandra, a beautiful white form tinged with

lavender, and the front of the lip slate blue—recalling the Gatton Park var.

Messrs. Charlesworth & Co, Heaton, Bradford, staged a very fine group, consisting chiefly of hybrids, to which a Silver Flora Medal was awarded. It contained a fine selection of Lælio-cattleyas, × luminosa, × callisto-glossa, × Haroldiana, × Celia, and others, with some good specimens of Vanda cœrulea in the centre. There were also good examples of Cattleya labiata, including a charming, nearly white form called var. Princess, C. × Fernand Denis, Brassocattleya × Digbyano-Warscewiczii, Sophrocattleya × Nydia, Cypripedium Spicerianum magnificum, C. × Leeanum giganteum, C. × Hitchinsiæ, Acanthephippium javanicum var. Fletcheri, a richly-coloured form, and others.

Messrs. James Cypher & Son, Cheltenham, also received a Silver Flora Medal for a fine group, including, some good forms of Dendrobium Phalænopsis, a fine series of Cypripediums, among which C. insigne Sanderæ and other yellow forms were conspicuous, also C. × Maudiæ, the richly-coloured C. × Creon, in which the good qualities of C. × Harrisianum superbum and C. × œnanthum superbum are combined, C. × Pitcherianum, the very beautiful C. × Niobe Westonbirt var., and others, with some fine Oncidium prætextum, O. varicosum, and Cattleya labiata in the centre.

M. Ch. Vuylsteke, Loochristi, Ghent, received a Silver Banksian Medal for a small group of choice hybrids Odontoglossums, and a First-class Certificate for the remarkable O. × Vuylstekeæ, which is figured on page 361.

Messrs. Hugh Low & Co., Bush Hill Park, received a Silver Banksian Medal for a good group, containing three white varieties of Cattleya labiata, called America, King of Greece, and reedleyensis, some good Dendrobium Phalænopsis, including a white variety, Oncidium cheirophorum, and O. tigrinum, Cypripedium × Leeanum Statterianum, forms of C. insigne, and fourteen good examples of Lælio-cattleya × Lady Rothschild. An Award of Merit was given to Dendrobium Phalænopsis thundersleyense, an extremely dark and richly-coloured variety.

Messrs. Stanley & Co., Southgate, also received a Silver Banksian Medal for a showy group, containing various good Cypripedes, Sophronitis grandiflora, Oncidium flexuosum, some good forms of Cattleya labiata, C. bicolor, C. Dowiana aurea, C. × St. Gilles, C. × O'Brieniana, &c., also a plant supposed to be a hybrid between Cattleya Harrisoniana and Dendrobium Victoria-Regina, but which the Orchid Committee considered to be a form of Lælio-cattleya × Cranstounæ, or a very near ally.

Messrs. William Bull & Sons, Chelsea, staged a small group consisting of Odontoglossum crispum Coronet, a spotted form, Cattleya × Clarkiæ, C. × Iris, and others.

M. L. Cappe, Le Vesinet, France, sent two forms of Lælio-cattleya × Schneideri (L.-c. × Amelia × C. Dowiana aurea), one having flowers uniformly buff yellow, the other orange yellow, with the front lobe of the lip broad, and dark purple in colour.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Corn Exchange, Manchester, on November 9th, when there was a very fine display, and the awards included five medals, two First-class Certificates, and eleven Awards of Merit.

G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Shill), staged a very fine group of Cypripedes, to which a Silver-gilt Medal was awarded. A First-class Certificate was given to C. × Leeanum Trenton Giant, and Awards of Merit to C. × EuryadesNew Hall Hey var., C. × Evelyn Ames Schofield's var., C. insigne var. E. Shill, and Cattleya labiata var. Schofieldiana.

A. Warburton, Esq., Haslingden (gr. Mr .Raven), also received a Silver-gilt Medal for a fine group of Cypripedes, in which some good yellow forms of C. insigne were conspicuous.

S. Briggs-Bury, Esq., Accrington (gr. Mr. Wilkinson), was accorded a Vote of Thanks for an interesting group, while Awards of Merit were given to Odontoglossum × Vuylstekei Bank House var., Cypripedium × Actæus magnificum, C. × Arthurianum pulchellum Harrisii, and C. × Niobe superbum.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), received an Award of Merit for Cypripedium × Isis (C. × Io grande × bellatulum).

S. Gratrix, Esq., Whalley Range (gr. Mr. Cypher), received an Award of Merit for Lycaste Skinneri var. Queen Alexander, and a Vote of Thanks for an interesting group.

M. Ch. Vuylsteke, Loochristi, Ghent, sent a small group of choice Odontoglossums, to which a Silver Medal was given; also a First-class Certificate to the magnificent O. × Vuylstekeæ, which is figured on page 361.

Messrs. James Cypher and Sons. Cheltenham, staged a very fine group of Cattleyas, Cypripediums, Dendrobiums, and others, a Silver Medal being awarded.

Messrs. A. J. Keeling and Sons, Bradford, received a Bronze Medal for a good group of Cypripediums, and an Award of Merit for C. × longwoodense superbum.

Mr. John Robson, Altrincham, received an Award of Merit for a hybrid Cypripedium derived from C. callosum × aureum virginale.

Votes of thanks were also accorded to Mrs. T. Fielden, Tadcaster, Mr. S. Allen, Sale, Messrs. Hugh Low and Co., Enfield, and Messrs. Stanley and Co., Southgate, for interesting groups.

ONCIDIUM VARICOSUM.

I SEND you a photograph, taken by my daughter, Miss Constance Wrigley, of a beautiful vase of half a dozen spikes of Oncidium varicosum, which

Fig. 73. ONCIDIUM VARICOSUM.

have been cut and in my drawing-room for about a week. There are six spikes in the vase, but the largest and finest of them measures six feet in height and has seventeen branches, the whole spike consisting of 260 flowers. The plant which produced the large spike was bought from Messrs. Stanley

and Co. in December, 1904, and produced a bulb 5½ inches high, which has now given me the grand spike above mentioned. I may just mention that I have numerous plants of this lovely Oncid, which are producing abundance of bloom, and we find the flowers last surprisingly well when cut. These Orchids are grown in an intermediate temperature, and after blooming we propose to rest them and keep water from them until they show signs of growth next spring. We treat Odontoglossum grande in exactly the same manner, which now grows and flowers freely, instead of gradually growing weaker, as it used to do, when not rested at all.

O. O. WRIGLEY.

Bridge Hall, Bury.

CALANTHES.

A VERY fine collection of these winter-flowering Orchids was recently seen at Hartham, Wilts., where plants other than Orchids are well and extensively grown. Some 200 pots were reviewed, representing one or two forms of C. Veitchii, the hybrid C. × bella, C. vestita lutea, and C. v. rubra. They are growing mostly in 6in. pots, and, judging from their luxuriant leafage and the length of bulb, must have received most generous treatment. The flower-spikes, which are already opening their first flowers, are very vigorous, and are unusually deep in colour.

Some hold to the opinion that over-fed Calanthes give flowers of the palest tints, while those grown without stimulants provide a greater depth of colour. This may be correct as applied to some instances—indeed, we have seen wonderful colour in Calanthes as a result of low diet being given during their growing season. To this variation of colour the nature of the water used has much influence, for some of the finest spikes bear much the lightest coloured flowers. They are highly disappointing in this respect. What particularly struck me in Mr. Welch's plants at Hartham was their late growth and their early state of bloom, scarcely a sign of maturity being seen in early November.—S. R. A. in *Journal of Horticulture.*

THE FOG FIEND.—Those in the London districts, and near large manufacturing towns, know how fog affects Orchid flowers, and no doubt the plants themselves are injured by the poisonous gases which follow in its train. The houses should be damped down very sparingly, and the plants may be kept rather on the dry side. No ventilation need be given while the fog continues, but when it lifts a little air may be admitted. If its stay be of long duration or very black, the leaves ought to be sponged with soft water, and the outside glass washed.—T. ANSTISS in *Journal of Horticulture.*

CALENDAR OF OPERATIONS FOR DECEMBER.

By JOHN MACKAY, The Gardens, Highbury, Birmingham.

DURING this dull, dark month the temperatures and atmospheric conditions of the various departments must be well looked after. See that the thermometer registers somewhat about the following figures :—

WARM HOUSE.—Day, 74° ; night, 68° ; morning, 64°.

CATTLEYA HOUSE.—Day, 68° ; night, 64° ; morning, 60°.

INTERMEDIATE HOUSE.—Day, 62° ; night, 58° ; morning, 55°.

COOL HOUSE.—Day, 58° ; night, 54° ; morning, 50°.

Respecting the atmospheric conditions, the weather must again be the simple guide. Very little water indeed need be distributed for the purpose of producing moisture when the outside conditions are mild, but should a large amount of fire heat be necessary for keeping the temperatures up to the desired figures, more damping down will be likewise necessary.

A great many Cypripediums, species and hybrids, almost too numerous to mention, are invaluable for winter blooming, and form a most imposing array and an agreeable variation of form and colour in the houses just now. When Cypripediums are arranged with other more brilliant and showy Orchids they are placed at a great disadvantage, and the best way to fully appreciate the varied forms and colours of this particular class at this season is to place them together, with no other species to intrude. They then certainly give a very pretty and attractive display, and should be largely grown, and no doubt are in localities specially troubled with injurious fogs, for they are much less delicate than the majority of Orchid flowers, and rarely suffer much.

The potting of Cypripediums should take place soon after the blooms have passed away, at whatever time of the year that may chance to be, and it need only be done when the plant has outgrown its pot. or when it may be desirable to divide the root in order to increase the number of plants. Lumpy peat two parts, sphagnum moss one part, with the fourth part made up of good turfy loam, broken mortar rubble, or charcoal, and sharp silver sand, makes a suitable compost. The pots should be well drained for about one-third of their depth.

The deciduous Calanthes, vestita, × Veitchii, and other pretty forms of the same type, will now be in full bloom, and will be found most serviceable. They should be placed in an intermediate temperature, and if kept fairly dry will last a long time in perfection. As the flowers pass over, the pots should be placed on a warm, dry shelf, and but little water, if any, given for a month or two. They will during that time enjoy the necessary rest, and be again ready to start into growth. They grow and flower much more freely in country places, where the atmosphere is brighter than in towns.

Cymbidium giganteum is a most useful species, and is now in flower. It is perhaps not so handsome as C. Tracyanum or C. Lowianum, but the fact of its being a winter blooming species makes it equally valuable. It grows well in the Cool-house the whole year round, but flourishes also in the Intermediate house. After the flower spikes are cut, the plant should be kept fairly dry at the roots during the winter months, after which it will again commence to grow strongly. The compost above named for Cypripediums is a very suitable one for this genus also, and re-potting is only required when the pots are outgrown, or for purposes of division and propagation. Two other winter bloomers out at the present are C. Mastersii and C. elegans, both handsome and desirable kinds, which grow very well in the Cool house during summer, but should have the benefit of the Intermediate department throughout the winter. The manner of re-potting, and the materials employed, are similar for the whole genus.

There are few, if any, winter blooming species more useful and beautiful than the very well known Zygopetalum intermedium, and none more certain to bloom. It also lasts a very long time in perfection, either on or off the plant. It requires intermediate temperature, and under favourable treatment will grow well enough, but if by any means it has got out of health, it is often a difficult matter to get it round again, and rarely can be done except by thoroughly overhauling it, taking it out of its pot, shaking off all old material, and repotting again in very small pots, thus giving it a fresh start in life. This is generally the best and quickest plan to adopt. The compost and treatment generally should agree with that recommended for Cymbidiums, keeping it rather dry for a time after blooming, and re-potting —whenever that operation may be deemed necessary—in the early spring before the new growths become very far advanced. *Z.* crinitum and *Z.* Mackayi are very similar to this species, requiring the same treatment, and bloom in winter.

Cattleya labiata having now practically done flowering for the present season, the house will look somewhat bare until the bulk of the Trianæs again put in their appearance. A few will probably be in bloom by Christmas, and by then there will also be C. Percivaliana. Give sufficient water at the root to keep the flower spikes quietly on the move.

Another good old winter-blooming Orchid is Phaius grandifolius, though it is not usually in flower by Christmas. The best-grown plants of this and allied species which I have seen have been in ordinary plant stoves, and potted in turfy loam freely mixed with broken rubble and sand. The usual conditions of these stoves seems to suit them to a nicety. The same remarks also fully apply to Peristeria elata, another lovely thing which flowers in late winter. It requires exactly similar treatment, excepting perhaps, that a little more care should be exercised when watering, as too

much water is apt to cause the pseudo-bulbs to become spotted, and eventually decay. During the winter this care should be particularly observed. Masdevallia tovarensis is now producing its pretty little white flowers. It should be kept moist, but see that it does not become too wet at the root, nor occupy a very cold position, or the chances are that the leaves will drop off, and the plant become seriously injured. It is best to remove it to the Intermediate house during winter. In fact, none of the Masdevallias are any the worse for a slight amount more warmth than the Cool house supplies during winter, though, if kept fairly dry at the root, they will stand a considerable amount of cold without injury. It is too much water at the root and in the atmosphere, during winter, that causes the leaves of Masdevallias generally to become so disfigured.

ORCHIDS IN SEASON.

AUTUMN-BLOOMING Orchids are now making a fine show, and are becoming increasingly numerous with the rapid progress of hybridisation. Several beautiful flowers are sent from the collection of Francis Wellesley, Esq., Westfield, Woking, by Mr. Hopkins. Lælio-cattleya × Norba superba is a charming light yellow flower of excellent shape, and the front lobe of the lip lilac. L.-c. × Miss G. Blount is derived from Cattleya × Mantinii and L.-c. × Ingrami, and has deep rose-purple sepals and petals, and a rich crimson-purple lip with a large yellow throat—a very promising hybrid. Cattleya labiata var. Minnie is remarkable for its exceptionally large size, being also good in shape and colour, while C. × Mantinii nigricans is exceptionally rich in colour, and has very broad petals. Cypripedium × Abraham Lincoln (× orphanum × Niobe) was mentioned at page 106, and the flower is at present a little disappointing, though the plant may not be strong. The dorsal sepal is white, with a purple band, and minute purple dots, which become brown on the green basal area, while the petals are densely dotted with brown on a greenish ground. The lip is purple-brown, and the staminode bright purple, with some green in the centre. C. × San-Arthur is a hybrid from C. insigne Sanderæ × Arthurianum, flowering for the first time, and most resembles the former parent.

Another beautiful series comes from the collection of J. H. Grogan, Esq., Slaney Park, Baltinglass (gr. Mr. Cooper). They include a fine, brightly-coloured form of Lælia Perrinii, and a spray of an Oncidium which was imported as Odontoglossum luteopurpureum. It proves to be Oncidium obryzatum, Rchb. f. The others are Cattleya Bowringiana hybrids, and are mentioned in a special note.

Another, and a finer form of Odontoglossum × crispodinei than that figured at page 241, is sent from the collection of De Barri Crawshay, Esq.,

Rosefield, Sevenoaks (gr. Mr. Stables). The sepals and petals are broader than in O. × Coradinei, and bright yellow, with large chestnut-red blotches, and the lip is also broader at the base. The column wings are narrow, and nearly entire. It is a secondary hybrid with O. crispum, but we do not remember anything like it among wild forms.

OBITUARY.

HENRY GEORGE MOON.—It is with deep regret that we have to announce the death of the accomplished artist of the *Reichenbachia*, Mr. H. G. Moon, which took place at St. Albans on October 6th. Mr. Moon had been in failing health for some time, and was in his 49th year at the time of his death. He joined the Art staff of *The Garden* in 1880, and his contributions to that journal include numerous Orchids. Five years later he commenced the drawings for the *Reichenbachia*, and the excellence of his work is well known. In January, 1894, he married the only daughter of Mr. F. Sander. Much of his spare time was devoted to sketching and painting in the Norfolk Broads. He leaves a widow and two sons.

JOHN BIDGOOD.—Another gentleman well known in the Orchid world passed away on October 6th, in the person of Mr. John Bidgood, B. Sc., F.L.S., head of the Secondary School, Gateshead, who died at Bournemouth, from blood poisoning, in his 53rd year. Deceased was an enthusiastic botanist and bacteriologist, and a member of the Scientific Committee of the R.H.S. He recently contributed a paper on the Disease of the leaves of Calanthes (*Journ. R.H.S.*, xxix., pp. 124-127), and he has also written on albinism and on the colouring of Orchid flowers.

RENANTHERA IMSCHOOTIANA.

IN the last issue of the *Revue l'Horticulture Belge* the beautiful Renanthera Imschootiana, Rolfe, is figured under the name of R. matutina, Lindl. (p. 252, with plate), and it appears from an article by M. Ch. Pynaert that a plant was exhibited at a meeting of the Chambre Syndicale des horticulteurs belges in May last by the Marquis de Wavrin, and received a Certificate of Merit, being greatly admired. At the following meeting a similar distinction was obtained by a plant exhibited by M. Lambeau, this being the one illustrated, from a painting by M. Goossens. It is unfortunate that the plant should have received so much attention under a wrong name, but we take the earliest opportunity of putting the matter straight. The further history given belongs to R. matutina, Lindl., a very distinct and far less ornamental species. The history of R. Imschootiana has already been given in these pages (vol. iii., p. 208; iv., p. 229). R. A. ROLFE.

NOTES.

Two meetings of the R.H.S. will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during December, on the 5th and 19th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on December 7th and 21st. The Committee meets at noon, and the exhibits are open to inspection from 1 to 3 o'clock p.m.

EPICATTLEYA × MAGDEBURGENSIS.—This is a very curious hybrid raised by M. Paul Wolter, of Madgeburg, Germany, from Cattleya Gaskelliana × Epidendrum vitellinum. The flowers are much like Cattleya Gaskelliana in shape and colour, but considerably smaller. M. Wolter remarks that he has a number of plants, all having two-leaved pseudobulbs, with a node between the leaves, as in many Epidendrums. Nearly all have flowered, and are as described above, but one has a dark-purple lip, as dark as in Cattleya Percivaliana. It would be interesting to try to reverse the parents.

We have pleasure in announcing that the Calendar of Operations will next year be written by Mr. J. M. Black, gardener to R. G. Thwaites, Esq., of Streatham, one of our most successful Orchid growers.

We have received for inspection three beautiful paintings of Orchids from Mr. H. H. Clegg, of Prestwich, near Manchester, and two of them being well-known varieties enables us to speak of their accuracy. An advertisement appears elsewhere.

We are pleased to see a kindly appreciation of our work in the pages of the *Journal of Horticulture*. Our esteemed contemporary remarks:—"The arrival of the November number reminds us of its great influence and its good work. It is an index to what is passing in the Orchid world, and like a barometer it records the passing changes. That the 'Review' should continue prosperously speaks volumes for the extensiveness of the Orchid cult in our times."

SALE OF ORCHID BOOKS.—Messrs. Hodgson and Co. concluded on November 3rd a three-days' sale of books and manuscripts at their auction rooms in Chancery Lane. Amongst the works relating to Orchids disposed of and the prices realised were the following:—"A Second Century of Orchidaceous Plants," by J. Bateman, 100 coloured plates, 1867, £2 4s.; and "A Monograph of Odontoglossum," by J. Bateman, thirty beautifully-coloured plates and wood-cuts, 1874, £2 8s.

ORCHID PORTRAITS.

CATTLEYA LABIATA.—*Amer. Florist*, 1905, p. 757, with fig.

CATTLEYA PERCIVALIANA.—*Amer. Florist*, 1905, p. 758, with fig.

CATTLEYA TRIANÆ.—*Amer. Florist*, 1905, p. 758, with fig.

CYPRIPEDIUM × GRANDE.—*Die Gartenwelt*, x., pp. 77-79, with figs.

CYPRIPEDIUM × TRIUMPHANS.—*Gard. Mag.*, 1905, p. 742, with fig.; *Journ. Hort.*, 1905, ii., p. 495, with fig.

DENDROBIUM PHALÆNOPSIS MISS LOUISA DEANE.—*Garden*, 1905, ii., p. 305, with fig.

EPIDENDRUM ATROPURPUREUM.—*Journ. Hort.*, 1905, ii., p. 401, with fig.

LISSOCHILUS UGANDÆ, Rolfe.—*Bot. Mag.*, t. 8044.

ODONTOGLOSSUM × LAMBEAUIANUM.—*Gard. Chron.*, 1905, ii., p. 324, fig. 126.

ODONTOGLOSSUM × VUYLSTEKEÆ.—*Gard. Mag.*, 1905, pp. 742, 743, with fig.; *Journ. Hort.*, 1905, ii., p. 473, with fig.; *Gard. Chron.*, 1905, ii., p. 379, fig. 143.

ONCIDIUM BIFOLIUM.—*Die Gartenwelt*, x. p. 80, with fig.

ONCIDIUM CORYNEPHORUM, Lindl.—*Gard. Chron.*, 1905, ii. p. 340, fig. 130; *Journ. Hort.*, 1905, ii., p. 449, with fig.

RENANTHERA MATUTINA.—*Rev. Hort. Belge*, 1905, p. 252, with plate. The plate represents R. Imschootiana, Rolfe, not R. matutina, Lindl.

SPATHOGLOTTIS VIEILLARDII.—*Journ. Hort.*, 1905, ii., p. 425, with fig.

CORRESPONDENCE.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they may have to stand over for a future issue. In the case of hybrid seedlings sent for name, the parentage and history should always be briefly stated, for without these details we are not always able to deal with them satisfactorily.)

I. B.—Cattleya Dormaniana, Rchb., f., Lælia crispilabia, A. Rich. (not a natural hybrid), Epidendrum punctiferum. Rchb., f., Phaius mishmiensis, Rchb. f., Cœlogyne Rhodeana, Rchb. f., and Bulbophyllum cocoinum, Batem.

H. G. A.—A small, apparently undeveloped form of Sophronitis grandiflora, and a form of Paphiopedilum × Medeia, a hybrid between P. Spicerianum and P. hirsutissimum.

T. H.—Sobralia sp. not identified. An interesting species which we hope to see again.

E. O. O.—The raiser was not stated, and we know there are many cases where the exhibitor is not the actual raiser, but it is not always possible to ascertain this at the time. We will now complete the record.

W. M.—Please forward.

X.—We do not see our way to issue Part I. in advance of the rest of the work.

Photographs received with thanks.—O. F., L. L., E. C. H., H. H.

The preparation of the Index has entailed some delay with the present issue, and owing to the curtailment of our space several interesting notes and articles are held over till next month.

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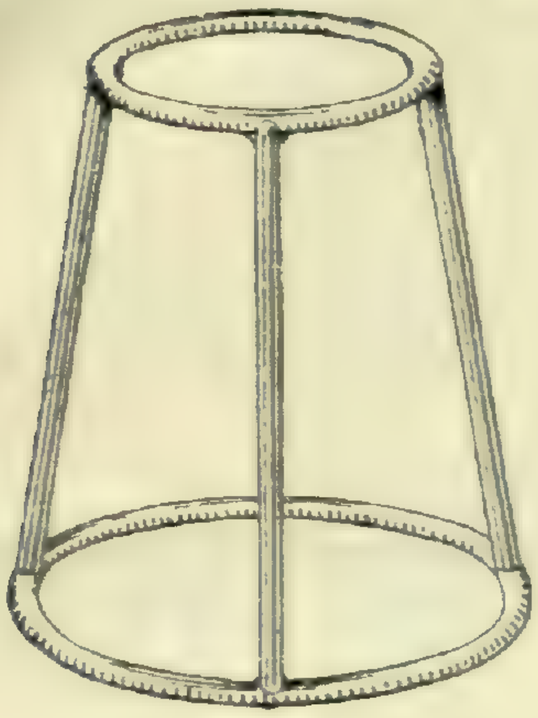

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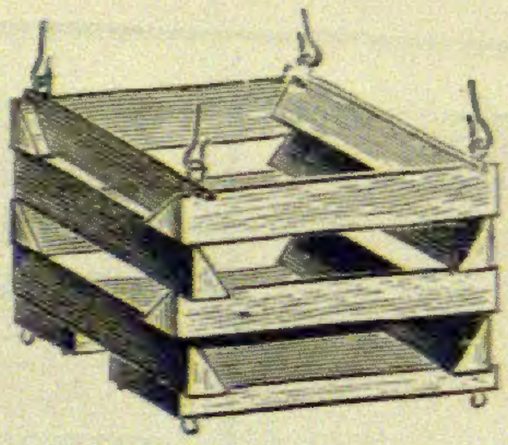

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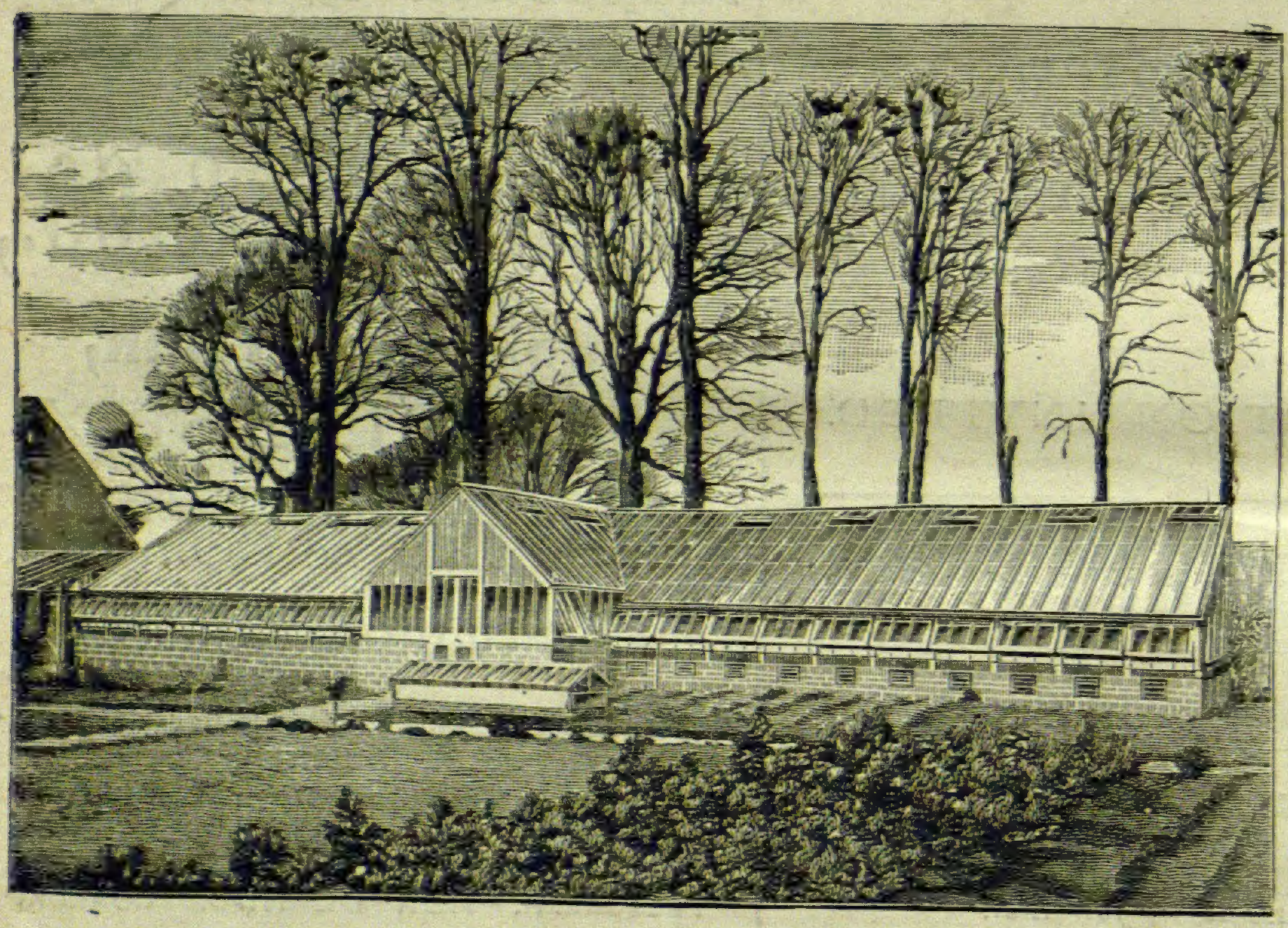

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